ADVERTISEMENT FOR BIDS

Sealed bids will be received by Southern University, Shreveport, Louisiana, in the Purchasing Office, Leonard C. Barnes Building, Room A-18, 1st Floor until the time and date(s) indicated in the following:

Construction of Guardshack for Jaguar Courtyard-Student Housing
Leonard C. Barnes Building - Room A-23 Conference Room
10:00 A.M., Tuesday, June 22, 2010

MANDATORY PRE-BID CONFERENCE – 10:00 A.M., Thursday, June 3, 2010 –Room A-23 Conference Room, Leonard C. Barnes Building

ANY PERSON REQUIRING SPECIAL ACCOMMODATIONS SHOULD NOTIFY THE PURCHASING OFFICE OF THE TYPE(S) OF ACCOMMODATION REQUIRED NOT LESS THAN SEVEN (7) DAYS BEFORE THE BID OPENING.

Bids may be withdrawn by written, telegraphic or fax notice received at the address designated in the Invitation to Bid prior to the time set for bid opening, as recorded by date stamp at the Purchasing Office. Bids received after closing time will be returned **unopened**. Evidence of authority to submit the bid shall be required in accordance with R.S. 38:2212 (a)(1)(c) and /or R.S. 39:1594 (c)(2)(d).

All bids must be accomplished by bid security equal to five (5%) of the total bid amount. A bid bond, cashier's check or certified check is acceptable made payable to Southern University at Shreveport. Bid bonds shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A-rating in the latest printing of the A. M. Best's Key Rating Guide to write individual bonds of up to ten percent of policyholders' surplus as shown in the A. M. Best's key rating guide.

The successful bidder shall be required to furnish a Performance and Payment Bond in an amount equal to 100% of the contract amount from a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with a least an A-rating in the latest printing of the A. M. Best's Key Rating Guide to write individual bonds of up to ten percent of policyholders' surplus as shown in the A. M. Best's key rating guide or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds.

Bid proposal forms information and specifications may be obtained from the Purchasing Office, Room A-18, Southern University at Shreveport, 3050 Martin Luther Jr. Drive, Shreveport, LA 71107.

Southern University at Shreveport is a participant in the Louisiana for the Small Entrepreneurships Program (the Hudson Initiative) and the Louisiana Initiative for Veterans and Service-Connected Disabled Veterans-Owned Business Small Entrepreneurships. Bidders are encouraged to consider participation. A list of certified vendors and additional information can be obtained from website http: www.ledsmallbiz.com. Potential participants may also register at the website.

All bid specifications can be obtained by using website www.doa.la.gov/osp (click on LaPac).

The University reserves the right to reject any and all bids and to waive and informalities incidental thereto. Bids will be accepted only from Contractors who are licensed under Louisiana R.S. 37:2150-2173 for the classification of **BUILDING CONSTRUCTION**.

AN EQUAL OPPORTUNITY EMPLOYER

SOUTHERN UNIVERSITY AT SHREVEPORT

SOUTHERN UNIVERSITY AT SHEVEPORT
PURCHASING DEPARTMENT
3050 MARTIN LUTHER KING JR. DRIVE
SHREVEPORT, LA 71107

INVITATION TO BID (ITB):
Construction of Guardshack for Jaguar Courtyard-Student Housing

Bids will be received at the above office until **10:00a.m., Tuesday, June 22, 2010** and at that time publicly opened. Bids received after above specified time will be returned **unopened.**

BID OF: _____

ADDRESS: _____

TO: PURCHASING DEPARTMENT
SOUTHERN UNIVERSITY AT SHREVEPORT
3050 Martin Luther King Jr., Drive
Shreveport, LA 71107

The undersigned certifies that he or she has (or they have) carefully examined the **instructions to bidders, the general conditions and specifications** hereto attached and made part thereof, and agreed to comply with such instructions. The undersigned proposed to furnish any and all items hereto attached upon which prices are requested at prices as stated for each item.

The undersigned certifies that he/she is licensed under R.S. 37:2150-2173 and show the license number on the bid envelope.

Bidder: _____
Company's Name

By: _____
Evidence of authority to submit the bid shall be required in accordance with R.S. 38:2212(a)(1)(c) and/or R.S 39:1594 (c)(2)(d).

Date: _____

Telephone Number _____

Fax Number _____

State License Number _____

Bid No. 000256

Bidder Inquiries:
No negotiations, decisions, or actions will be executed by any bidder as a result or any oral discussion with any University employee or State Consultant. **Only those transactions which are in writing, signed by the Purchasing Office will be considered as valid.** Likewise, the University will only consider communication from bidder, signed and in writing, to the attention of the **Purchasing Office, 3050 Martin Luther King Jr. Drive, Shreveport, Louisiana 71107, Attention: Sophia Lee. Please note that all inquiries sent via mail/fax/email should be sent seven (7) calendar days prior to bid opening.**

Scope of Work:
Furnish all necessary labor, materials, tools and equipment to provide the required renovations for **Construction of Guardshack for Jaguar Courtyard-Student Housing.**

Prosecution of Work:
The work is to be done when Southern University at Shreveport is in operation. The contractor shall, therefore, plan the repairs and installation in specification so as not to interfere with normal operations of the building and shall exert effort to expedite completion of the work once is has started.

It is intended that the work shall be done during normal working hours, however, should be work require overtime (Saturday, Sunday and/or night working hours), the cost must be borne by the contractor at no extra compensation for the Owner (Southern University at Shreveport).

Guarantee
It is the intention of the specifications to secure a first-class permanent material and construction and to this end, Contractor will be held responsible for and must correct defects discovered in the work within one (1) year from acceptance. Should any materials or methods be called for, of such nature to render this guarantee impossible, written notice to this effect should be given Owner (Southern University at Shreveport) before signing contract and/or beginning of work; failure to do this will be construed as agreement to the strictest terms of the guarantee.

Clean-Up
The Contractor will be directed during the progress of work to remove and properly dispose of the resultant and debris. Upon completion, Contractor shall remove all equipment, unused materials and debris and will leave the premises in a clean and first-class condition.

Examination of Site
Each bidder will visit the site of the proposed project and will fully acquaint himself with conditions relating to construction and labor so that he may fully understand the facilities, difficulties and restrictions attending the execution of work under this contract by contacting Mr. Layne Chenevert at (318) 670-6377. No consideration or allowance will be granted the Contractor for failure to visit the site ore for any alleged misunderstanding of the materials to be furnished or the work to be done.

Note to Vendors:

All bids must be accompanied by bid security equal to five percent (5%) of the base bid and all additive alternates and must be in the form of a Certified Check, Official Check or Bid Bond written by a company licensed to do business in Louisiana.

THE UNIVERSITY RESERVES THE RIGHT TO REQUIRE A PERFORMANCE AND PAYMENT BOND ON ANY AWARD MORE THAN $25,000.

BID FORM

BID NO **000256**

INVITATION TO BID FOR:
Remodeling of Academic Advising Center and
Financial Aid Renovations

SOUTHERN UNIVERSITY AT SHREVEPORT
SHREVEPORT, LOUISIANA 71107

PURCHASING OFFICE
Southern University at Shreveport
3050 Martin Luther King Jr. Drive
Shreveport, LA 71107

Gentlemen/Madam:

I/We hereby declare that I/We have carefully examined the specifications and/or plan and general conditions of the Contract documents and having personally inspected the site; and that I/We have a clear understanding of the said documents. I/We hereby propose to provide the necessary tools, machinery, apparatus, and other means of construction, and to furnish all labor and materials specified in the Contract, or called for by the specifications necessary to complete and finish in a thoroughly workmanlike manner, **the proposed:**
Construction of Guardshack for Jaguar Courtyard-Student Housing

We acknowledge receipt of the following numbered addenda: No. _____ Date _____

No. _____ Date _____ No. _____ Date _____

BID SECURITY: Attached is the sum of **(5% of the total base bid):**
_____ Dollars $ _____
which will become the property of the Owner (Southern University) in the event the awardee fails to furnish required insurance certificate and a performance and payment bond **(if required)** within the time set forth. The **Bid Security** will serve as liquidated damages for the delay and additional work caused thereby.

BASE BID: I/We agree to perform all work described in the specification under base bid heading for the sum of:
_____ Dollars $ _____

COMPLETION TIME

The Bidder agrees to commence work under this contract on a date specified in a written "Notice to Proceed and/or Purchase Order" by the Owner to fully complete the project within **90 days** Consecutive calendar days thereafter, or within the time as may be extended as stipulated in the Contract Documents.

LIQUIDATED DAMAGES: The Bidder hereby also agrees to pay as liquidated damages the sum of

One Hundred---------- DOLLARS ($100.00)
for each consecutive calendar day which the work not complete beginning with the first day beyond the completion time stated above.

AWARD AND EXECUTION OF CONTRACT: The owner shall incur no obligation to the Contractor until the contract between the owner and contractor is duly executed. If the bidder is notified of the acceptance of the bid within thirty (30) days of the opening of the bids, he agrees to execute and deliver the owner the "Contract between owner and contractor, Performance and Payment Bond and Certificate of Insurance: a copy of which is attached to the Contract Documents, within ten (10) working days after notice from the owner that instrument is ready for signature.

If the bidder fails to complete **all requirements** for executing the "Contract between Owner and Contractor, performance and Payment Bond and Certificate of Insurance" within then (10) working days after notification, the owner may reject the Bid, retain the Bid Bond, call in the surety for payment, and award the contract to the next lowest responsive bidder.

LICENSE CERTIFICATION: The Bidder certified that he meets all licensing requirement of this State and is duly and currently licensed under R.S. 37:2150-2173 of the State of Louisiana, and this Louisiana Contractor License Number is _____ for any bid submitted in the amount of fifty thousand dollars **($50,000.00)** and **show contractor's license number on bid envelope.**

Evidence of authority to submit the bid shall be required in accordance with R.S. 38:2212 (A)(1)(C) and/or R.S. 39:1594 (C)(2)(D).

COMPANY _____

By _____

Title _____

Address _____

Telephone/Fax Number(s) _____

State License Number (If applicable) _____

JOB SITE VISIT

SOUTHERN UNIVERSITY AT SHREVEPORT
SHREVEPORT, LOUISIANA

Vendor should inspect the job site prior to submitting a bid price on this project. If vendor finds conditions that disagree with the specifications as described in this proposal, or other features of the specifications that appear to be in error, same shall be note ***three (3) working days prior to bid opening.***

Vendor may contact: ***Layne Chenevert at (318) 670-6377*** *to schedule inspection prior to bid opening.*

The signed statement certifies the vendor's name below has visited the proposed site and is familiar with all conditions surrounding fulfillment of the specifications for this project.

COMPANY _____

BY _____
Evidence of Authority to submit the bid shall be in accordance with R.S. 38:2212(a)(1)(c) and/or R.S. 39:1594(c)(2)(d)

DATE _____

JOB SITE VERIFIED BY: _____

BID NUMBER *000256*

INSURANCE AND INDEMNIFICATION

Before commencing work, (vendor/contractor and/or subcontractor) shall obtain at its own cost and expense the following insurance in insurance companies authorized in the State, with an **A.M. Best** rating of **A-:VI or higher** and shall provide evidence of such insurance to Southern University, as may be required by the Southern University. The policies or certificates thereof, shall provide that thirty (30) days prior to cancellation notices of same shall be given to Southern University Purchasing Department by return receipt requested, for all of the following stated insurance policies. All notices shall name the other party and identify the agreement or contract number.

A. **Worker's Compensation** – Statutory – in compliance with the Compensation law of the State. Exception: Employers Liability is to be **$1,000,000** when work is to be over water and involves maritime exposure. (A.M. Best's rating requirement mentioned may be waived for workers compensation coverage only).

B. **Commercial General Liability Insurance** with a minimum limit of liability per occurrence of **$1,000,000** for bodily injury and property damage. This insurance shall include the following coverage's:

1. Premises – Operations
2. Broad Form Contractual Liability
3. Products and Completed Operations
4. Use of Contractors and Subcontractors
5. Personal Injury
6. Broad Form Property Damage

C. **Automobile Liability Insurance** with a minimum limit of liability per occurrence of **$1,000,000** for bodily injury and property damage unless otherwise indicated in the contract specifications. This insurance shall include for bodily injury and property damage the following coverages:

1. Owned automobiles
2. Hired automobiles
3. Non-owned automobiles

Note: If the vendor/contractor does not own an automobile and an automobile is utilized in the execution of the contract, then only hired and non-owned coverage is acceptable. If an automobile is not utilized in the execution of the contract, then automobile coverage is not required.

Southern University at Shreveport shall be named as additional insured on all liability policies. A Thirty (30) day prior notice of cancellation must be given to the University for all required coverage. Insurance must be from a company with an A.M. Best's rating for no less than A-:VI who is authorized to do business in the State of Louisiana. The A.M. Best's rating requirement may be waived for Worker's Compensation only.

The successful contractor is to provide the owner with a certificate of insurance prior to commencement of work.

Location of All Operations Shall Be "All Locations".

SPECIAL CONDITIONS
BIDDER'S CERTIFICATION OF EEOC AND ADA COMPLIANCE

Southern University at Shreveport of the State of Louisiana is an equal opportunity employer and looks to its contractors, sub-contractors, vendors, and suppliers to take affirmative action to effect this commitment in its operations.

By submitting and signing this bid, the bidder certifies that he agrees to adhere to the mandates dictated by Title VI and VII of the Civil Rights Act of 1964, as amended; the Vietnam Era Veterans' Readjustment Assistance Act of 1974; Section 503 of the Rehabilitation Act of 1973; Section 202 of Executive Order 11246, as amended; and the Americans with Disabilities Act of 1990. Bidder agrees that he will not discriminate in the rendering of services to and/or employment of individuals because of race, color, religion, sex, age, national origin, handicap, disability, veteran status, or any other non-merit factor.

Bidder further agrees to keep informed of and comply with all Federal, State, and local laws, ordinances, and regulations which affect his employees or prospective employees.

Any person who is a "Qualified Individual with a Disability" as defined by 42 USC12131 of the American with Disabilities Act who has submitted a bid on this procurement and who desires to attend the bid opening, must notify this office in writing no later than seven(7) working days prior to the bid opening date of their need for special accommodations. If the requested accommodations cannot be reasonably provided, the individual will be so informed prior to the bid opening.

R.S. 39:1594 (Act 121)

Evidence of authority to submit the bid shall be required in accordance with R.S. 38:2212 (A)(1)(C) and/or

R.S. 39:1594 (C)(2)(D).

"Signature Authority: In accordance with L.R.S. 39:1594 (Act 121) the person signing the bid must be:

1. A current corporate officer, partnership member or other individual specifically authorized to submit a bid as reflected in the appropriate records on file with the Secretary of State; or

2. An individual authorized to bind the vendor as reflected by an accompanying corporate resolution, certificate or affidavit; or

3. An individual listed on the State of Louisiana Bidder's Application as authorized to execute bids.

By signing the bid, the bidder certifies compliance with the above".

VENDOR PREFERENCES

In accordance with the Louisiana Revised Statutes 39:1595, a preference of 10% may be allowed for products produced, manufactured, grown or assembled in Louisiana of equal quality.

Do you claim this preference? Yes _____ No _____

SPECIFY ITEM NUMBER(S)
FAILURE TO SPECIFY ABOVE INFORMATION MAY CAUSE ELIMINATION FROM PREFERENCES.

SPECIAL CONDITIONS

Tax Information/State of Louisiana

In accordance with Act Number 1029 of the 1991 Regular Session, effective September 1, 1991 state agencies will no longer be required to pay state sales tax.

BID BOND

A bid bond, official/cashier's check, or certified check, in the amount of 5% of the total bid, unless another amount is specified, made payable to Southern University at Shreveport, must accompany each bid.

If a bid bond is used, it shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A-rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide.

REQUIRED: Yes ___X___ No _____

PERFORMANCE AND/OR PAYMENT BOND

The successful vendor will be notified by letter to secure a Performance and/or Payment Bond equal to the contract sum, from a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service List of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A-rating in the latest printing of the A.M. Best's Key Rating Guide or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds.

In addition, any performance and/or payment furnished shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana.

The Performance and Payment Bond must be received within twelve (12) days from the date of notification.

If the Performance and Payment Bond is not received within this period of time, Southern University at Shreveport reserves the right to award to the next acceptable low bidder, or to reject all bids and re-advertise, whichever is in the best interest of Southern University at Shreveport and the State of Louisiana.

REQUIRED: Yes ___X___ No _____

GENERAL TERMS & CONDITIONS

BIDDERS MUST COMPLY WITH ALL REQUIREMENTS ON THESE PAGES. THESE PAGES SHOULD BE RETURNED WITH BID, (CONFIRMATION THAT YOU ARE COMPLYING WITH ALL REQUIREMENTS STATED ON SHEETS).

SOUTHERN UNIVERSITY AT SHREVEPORT

Southern University Purchasing Department will receive sealed bids until the time and date specified in this Invitation for Bid (IFB). No bid will be considered if receive by the Purchasing Department after the specified time and date. Beginning at that time, bids will be publicly opened, and read in the Conference Room-1st floor of the Leonard C. Barnes Building Room A-23, 3050 Martin Luther King Jr. Drive, Shreveport, Louisiana 71107, or another designated area.

Bids shall be mailed to:
Southern University at Shreveport
Purchasing Department
3050 Martin Luther King Jr. Drive
Shreveport, LA 71107

As an alternative, bids may be hand delivered to:
Southern University at Shreveport
Purchasing Department
1st Floor- Martin Luther King Jr. Drive
Room A-23 Leonard C. Barnes Building
Shreveport, LA 71107

Bids submitted are subject to provisions of La. R.S. 39:1551-1736; Purchasing Rules and Regulations; Executive Orders; the General Conditions; and Special Condition; and Specifications listed in this Invitation for Bid.

INSTRUCTIONS TO BIDDERS

1. Bid Forms

All written bids, unless otherwise provided for, must be submitted on, and in accordance with forms provided and properly signed. Bid submitted in the following manner will not be accepted:

1. Bid contains no signature indicating intent to be bound;
2. Bid filled out in pencil
3. Bid not submitted on University standard forms.

Bids must be received at the address specified in the Invitation for Bids prior to bid opening time in order to be considered. Telegraphic and fax alterations to bids received before bid opening time will be considered provided formal bid and written alteration have been received and time-stamped before bid opening time.

2. Special Envelopes

To assure consideration, all bids should be submitted in the special envelope if furnished for that purpose, or an envelope of your choice that is clearly marked identifying the **company's name, complete address, bid number, time of bid opening and the scheduled opening date.**

3. Standard of Quality

Any product or service bids shall conform to all applicable Federal, State and Local laws, regulations and the specifications contained in the IFB. Unless otherwise specified in the IFB, any manufacturer's name, trade name, brand name, or catalog number used in the specifications is for the purpose of describing the quality level, performance and characteristic required. Bidder must specify the brand and model number of the product offered in his/her bid. Bids not specifying brand and model numbers will be considered as offering the exact product(s) specified in the IFB.

4. Descriptive Information

Bidders proposing an equivalent brand or model should submit the bid information (such as illustrations, descriptive literature, technical data) sufficient for the University to evaluate quality, suitability, and compliance with the specifications in the IFB. Failure to submit descriptive information may cause bid to be rejected. Any change made to a manufacturer's published specification submitted for a product shall be verifiable by the manufacturer. If item(s) bid do not fully comply with specifications (including brand and/or product number), bidder must state in what respect the item(s) deviate. Failure to note exceptions on the bid form will not relieve the successful bidder(s) from supplying the actual products requested.

5. Bid Opening

Bidders may attend the bid opening but no information or opinions concerning the ultimate contract award will be given at the bid opening or during the evaluation process. Bids may be examined 72 hours after request is made. Information pertaining to completed files may be secured by visiting the Purchasing Department during normal working hours. Written bid tabulations will not be furnished.

Initialed by: _____

ALL FORMS MUST BE RETURNED AND SIGNED/INITIALED WHERE INDICATED

GENERAL TERMS & CONDITIONS

Southern University at Shreveport reserves the right to award items separately, grouped or on all or none basis and to reject any or all bids and waive any information.

6. Prices
Unless otherwise specified by the Purchasing Department in the IFB, bid prices must be complete, including transportation, prepaid by bidder to destination. Bids other than FOB destination may be rejected. In the event of extension errors, the unit price shall prevail.

7. Payment Terms
Payment is to be made within 30 days after receipt of properly executed invoice or delivery and acceptance, whichever is later. Delinquent payment penalties are governed by **L.R.S. 39:1695.**

8. Deliveries
Bids may be rejected if the delivery time indicated is longer that that specified in the IFB.

9. Vendor Invoices
Invoices shall reference the Southern University purchase/release order number, vendor's packing list/delivery ticket number, shipping/delivery date, etc. Invoices are to be itemized and billed in accordance with the order and should show the amount of any prompt payment discount and submitted on the vendor's own invoice form. Invoices submitted by the vendor's supplier will not be accepted.

10. Taxes
Vendor is responsible for including all applicable taxes in the bid prices. Southern University is exempt from all Louisiana state and local sales and use taxes. By accepting an award, resident and non-resident firms acknowledge their responsibility for the payment of all taxes duly accessed by the State of Louisiana and its political subdivisions for which they are liable, including but not limited to: franchise taxes, privilege taxes, sales taxes, use taxes, ad valorem taxes, etc.

11. New Products
Unless specifically called for in the IFB, all products for purchases must be new, (never previously used) and the current model and/or packaging. The manufacturer's standard warranty will apply unless otherwise specified in the IFB.

12. Contract Renewals
Upon agreement of Southern University at Shreveport and the contractor, an open-ended requirements contract may be extended for two (2) additional twelve (12) month periods at the same prices, terms and conditions. In such cases, the total contract term cannot exceed thirty-six (36) months.

13. Contract Cancellation
Southern University has the right to cancel any contract, in accordance with Purchasing Rules and Regulations, for cause, including but not limited to, the following: (1) failure to deliver within the time specified in the contract; (2) failure of the product or service to meet specifications, conform to sample quality or to be delivered in good condition; (3) misrepresentation by the contractor; (4) fraud, collusion, conspiracy or other unlawful means of obtaining any contract with the state; (5) conflict of contract provisions with constitutional or statutory provision of state or federal law; (6) any other breach of contract.

14. Fiscal Funding Clause
In accordance with LA R.S. 39:1615 (c)and (e), any contract entered into by the State of Louisiana and Southern University shall include the following Fiscal Funding Clause:
C. Termination due to unavailability of funds in succeeding years. When funds are not appropriated to support continuation of performance in a subsequent year of a multiyear contract, the contract for such subsequent year shall be terminated. When a contract is terminated under these conditions, no additional funds shall be paid to the contractor as a result of such action.
E. With respect to all multiyear contracts, there shall be no provisions for a penalty to the state for the cancellation or early payment of the contract.
The continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the legislature.
All proposers should be aware that our legislative process is such that it is often impossible to give prior notice of the non-appropriation of funds.

Initialed by: _____

ALL FORMS MUST BE RETURNED AND SIGNED/INITIALED WHERE INDICATED

GENERAL TERMS & CONDITIONS

15. Default of Contractor
Failure to deliver within the time specified in the bid will constitute and default and may cause cancellation of the contract. Where the state had determined the contractor to be in default, the state reserves the right to purchase any or all products or services covered by the contract on the open market and to charge the contractor with cost in excess of the contract price. Until such assessed charges have been paid, no subsequent bid from the defaulting contractor will be considered.

16. Order of Priority
In the event there is a conflict between the Instructions to Bidder or General Conditions and the Special Conditions, the Special Condition shall govern.

17. Applicable Law
All contracts shall be constructed in accordance with and governed by the laws of the State of Louisiana.

18. Equal Opportunity
By submitting and signing this bid, bidder agrees that he will not discriminate in the rendering of services to and/or employment of individuals because of race, color, religion, sex, age, national origin, handicap, disability, veteran status, or any other non-merit factor.

19. Certification of No Suspension or Debarment
By signing and submitting this bid, bidder certifies that its company, any subcontractors, or principals thereof, are not suspended or debarred under federal or state laws or regulations. A list of parties who have been suspended or debarred by federal agencies is maintained by the General Services Administration and can be viewed on the internet at www.epls.gov

___X___ Federal Funded **_____ Non-Federal Funded**

20. Prohibited Contractual Arrangements
Per Louisiana R.S. 42:1113.a, no public servant, or member of such public servant's immediate family, or legal entity in which he is a controlling interest shall bid on or enter into any contract, subcontract, or other transaction that is under the supervisions or jurisdiction of the agency of such public servant. See statute for complete law, exclusions and provisions.

21. Mutual Indemnification
Each party hereto agrees to indemnify, defend and hold the other, its officers, directors, agents and employees harmless from and against any and all losses, liabilities and claims, including reasonable attorney's fee arising out of or resulting from the willful act, fault, omission, or negligence of the indemnifying party or of its employees, contractors, or agents in performing its obligations under this agreement, provided however, that neither party hereto shall be liable to the other for any consequential damages arising out of its willful act, fault, omission, or negligence.

22. Bidder Inquiries
No negotiations, decisions, or actions will be executed by any bidder as a result or any oral discussion with any University employee or State Consultant. **Only those transactions which are in writing, signed by the Purchasing Office will be considered as valid.** Likewise, the University will only consider communication from bidder, signed and in writing, to the attention of the **Purchasing Office, 3050 Martin Luther King Jr. Drive, Shreveport, Louisiana 71107, Attention: Sophia Lee. Please note that all inquiries sent via mail/fax/email should be sent seven (7) calendar days prior to bid opening.**

23. Fair Labor Standards Act
Contractor shall be in compliance with the Fair Labor Standards Act 29 USC 201-6; Established minimum wage, overtime pay, equal pay, recordkeeping, and child labor standards for employees or in the production of goods for interstate commerce. **By signing and submitting this bid, bidder certifies that its company, any subcontractors, or principals thereof is in accordance with said compliance. United States Department of Labor website: www.dol.gov/esa**

24. Davis-Bacon Act ($2,000 or more)
Contractor shall be in compliance with the Davis-Bacon Act, 40 USC 276A-7; Ensures that laborers and mechanics employed pursuant to federally funded construction contracts, subcontracts and construction under Federal grants, will be paid wages as determined by the U.S. Secretary of Labor. **By signing and submitting this bid, bidder certifies that its company, any subcontractors, or principals thereof is in accordance with said compliance.**
United States Department of Labor website: www.dol.gov/esa

___X___ Federal Funded **_____ Non-Federal Funded**

Initialed by: _____

ALL FORMS MUST BE RETURNED AND SIGNED/INITIALED WHERE INDICATED

25. Small Business Entrepreneurship Programs

The Southern University at Shreveport is a participant in the Louisiana for the Small Entrepreneurships Program (the Hudson Initiative) and the Louisiana Initiative for Veterans and Service-Connected Disable Veterans-Owned Business Small Entrepreneurships. Bidders are encouraged to consider participation. A list of certified vendors and additional information can be obtained from website http: www.ledsmallbiz.com. Potential participants may also register at this website.

All bid specifications can be obtained by using the website **www.doa.la.gov/osp** (click on LaPac).

Initialed by: _____

ALL FORMS MUST BE RETURNED AND SIGNED/INITIALED WHERE INDICATED

Company _____

By (name printed) _____

Address _____
Street/Box Number **City/State/Zip Code**

Telephone Number ( ) _____ **Facsimile ( )** _____

NOTE: By accepting a purchase order resulting from this Invitation to Bid, non-resident firms certify that they have paid all taxes dully assessed by the State of Louisiana and its political subdivisions, including franchise taxes, privilege taxes, sales taxes and all other taxes for which they are liable to the state and its political subdivisions.

Initialed by: _____

ALL FORMS MUST BE RETURNED AND SIGNED/INITIALED WHERE INDICATED

EXHIBIT "A"
INDEMNIFICATION AGREEMENT

The _____ agrees to protect, defend, indemnify, save,
(Contractor/Subcontractor/Lessee/Suppliers)

and hold harmless the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants and employees, including volunteers, from and against any and all claims, demands, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur or in any way grow out any act or omission of _____, its agents, servants, and employees, or any and
(Contractor/Subcontractor/Lessee/Supplier)

all costs, expenses and/or attorney fees incurred by _____ as a result of any claims,
(Contractor/Subcontractor/Lessee/Supplies)

demands, and/or causes of action except those claims, demands, and/or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its agents, representatives, and/or employees.

_____ agrees to investigate, handle, respond to,
(Contractor/Subcontractor/Lessee/Supplies)

provide defense for and defend any such claims, demands, or suits at its sole expense and agrees to bear all other costs and expenses related thereto, even if they (claims, etc.) are groundless, false or fraudulent.

Accepted by _____
Company Name

_____
Signature

_____
Title

Date Accepted _____

Is Certificate of Insurance Attached? _____ Yes _____ No

Contract No _____ for Southern University at Shreveport_____

PURPOSE OF CONTRACT: **Construction of Guardshack for Jaguar Courtyard-Student Housing**

_____

A UNIVERSITY POLICE GUARDSHACK FOR JAGUAR COURTYARD STUDENT HOUSING SPECIFICATIONS

1. ASPHALT SHINGLE ROOF SYSTEM OVER #30 ROOFING FELT UNDERLAYMENT ON ½" CDX PLYWOOD ROOF DECKING ON 2X6 RAFTERS 24" O.C.
2. DOUBLE 2X4 RAFTER BEARING PLATE.
3. 2- 2/12 HEADER.
4. 230/208V PTAC UNIT.
5. PRE-FINISHED ALUMINUM 4"X3" OGEE GUTTER WITH TOP SUPPORT STRAPS AT 8' -0" O.C. WITH DOWNSPOUT.
6. 2X4 SOFFIT FRAMING 24" O.C.
7. ½" PLYWOOD SHEATHING.
8. R-19 BATT INSULATION AT 2X6 CEILING JOIST 24" O.C.
9. 5/8" F.C. GYPSUM BOARD. TAPE FLOAT AND PAINT.
10. R-11 BATT INSULATION WITH VAPOR BARRIER AT 2X4 STUD FRAMING 16" O.C.
11. KING BRICK VENEER. (MATCH RED BRICK AT EXISTING APARTMENT COMPLEX) ACME BRICK CO.
12. 4" CONCRETE SLAB W/ 6X6 W 1.4 W.W.F. OVER 6 MIL VAPOR BARRIER.
13. 2X4 P.T. WOOD PLATE W/ ½" DIA. X8" + HOOK ANCHOR BOLTS @ 48" O.C. (SIMPSON MASONRY SILL PLATE ANCHORS @ 42" MAY REPLACE ANCHOR BOLTS)
14. #4 REINFORCEMENT BARS CONTINUOUS. (TYPICAL)
15. THRU-WALL BASE COURSE FLASHING.
16. ADJUSTABLE BRICK TIES AT 16" O.C. EA. WAY. (TYPICAL)
17. FULL OPEN HEAD JOINT WEEP HOLE AT 32" O.C.
18. 12"X12"X1/8" COMMERCIAL GRADE VCT.
19. 4" RUBBER BASE.
20. PAINTED WOOD VENTED SOFFIT.
21. 78"X48" CLEAR TEMPERED DOUBLE GLAZED WINDOW IN ALUMINUM FRAME.
22. 1X6 PAINTED WOOD FASCIA BOARD.
23. ALUMINUM THRESHOLD.
24. 100 AMP PANEL BOX.
25. 2-2X8 HEADER.
26. DOWEL AT CONCRETE WALK AND FOUNDATION.
27. 3' -0"X7' -0" ALUMINUM STORE FRONT DOOR WITH TEMPERED GLASS, CLOSER, SEVEN PIN BEST CYLINDER. PUSH BAR ON THE INSIDE AND PULL HARDWARE ON THE OUTSIDE, IN ALUMINUM FRAME.
28. 42"X48" CLEAR TEMPERED DOUBLE GLAZED FIXED WINDOW IN ALUMINUM FRAME.

29. TWO INCH DIA. SCHEDULE 40 PVC CONDUIT FOR COMMUNICATIONS 2 INCHES ABOVE SLAB IN EXTENDED 3' -0" BEYOND SLAB OUTSIDE IN THE DIRECTION OF THE CLUBHOUSE. (DATA CONNECTION N.I.C.) PROVIDE AND INSTALL DATA/PHONE OUTLETS AND CONDUIT INSIDE THE GUARD BUILDING.
30. PLASTIC LAMINATE ON TWO LAYERS ¾" PLYWOOD COUNTER TOP WITH ¼" ROUND MOLDING AT WALL.
31. TWO INCH SCHEDULE 40 PVC CONDUITS FOR ELECTRICAL IN CONCRETE SLAB. EXTEND 6" ABOVE SLAB AND 3' -0" BEYOND SLAB AT EXTERIOR OF THE BUILDING IN THE DIRECTION OF THE CLUBHOUSE PANEL H2. BORE TO AND CONNECT TO PANEL H2 FOR ELECTRICAL SERVICE. LOCATE EXISTING UTILITIES PRIOR TO BORE.

A UNIVERSITY POLICE GUARDSHACK FOR JAGUAR COURTYARD STUDENT HOUSING SPECIFICATIONS

Notes to sheet:

1. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301 "SPECIFICATION FOR STRUCTURAL CONCRETE."
2. ALL FOOTINGS SHALL BEAR ON ORIGINAL UNDISTURBED SOIL OR CONTROLLED FILL.
3. CONCRETE SHALL BE NORMAL (150 PCF). 28 DAY COMPRESSIVE STRENGTH: 3000 PSI.
4. N/A
5. N/A
6. CONCRETE FOR FLOOR SLABS SHALL HAVE A MAXIMUM SLUMP OF 5 INCHES AT POINT OF DELIVERY.
7. SIZE OF AGGRAGATES SHALL CONFORM TO ASTM C33.
8. CONCRETE FINISH FLOORS SHALL HAVE A HARD STEEL, TROWELED FINISH EXTERIOR WALKS SHALL HAVE LIGHT BROOM FINISH.
9. REINFORCING STEEL PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 318 SECTION 1.3.
10. PROVIDE BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCING."
11. HORIZONTAL REINFORCEMENTS IN FOOTINGS AND TURNDOWN SLAB SHALL BE CONTINUOUS AROUND CORNERS.
12. ALL DEBRIS SHALL BE REMOVED FROM FORMS PRIOR TO PLACEMENT OF CONCRETE.

A UNIVERSITY POLICE GUARDSHACK FOR JAGUAR COURTYARD STUDENT HOUSING SPECIFICATIONS

Concrete Notes:

1. ALL STUDS SHALL BE #2 SYP OR #2 SPF.
2. ALL HEADERS SHALL BE #2 SYP OR BETTER.
3. ALL PLATES SHALL BE #2 SYP.
4. ALL SILL PLATES IN CONTACT WITH CONCRETE OR MASONRY AND EXSPOSED LUMBER SHALL BE PRESSURE TREATED PER AWPA SPECIFICATIONS.

A UNIVERSITY POLICE GUARDSHACK FOR JAGUAR COURTYARD STUDENT HOUSING SPECIFICATIONS

Framing Notes:

1. MATCH ALL MATERIAL WITH EXISTING MATERIALS AT STUDENT HOUSING COMPLEX.
2. CONSTRUCTION SHALL COMPLY WITH ALL NATIONAL, STATE, AND LOCAL CODES FOR CONSTRUCTION.
3. SITE SHALL BE KEPT CLEAN OF ALL DEBRIS DURING AND AFTER CONSTRUCTION IS COMPLETE.

MORTAR

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Submit manufacturer's product specifications and mixing and installation instructions for each manufactured product.

1.02 DELIVERY, STORAGE AND HANDLING

A. Deliver materials, except aggregate, in original unopened containers displaying product name, type, grade, and mixing instructions.

1.03 QUALITY ASSURANCE

A. Use only one brand of cement for each type specified throughout Project.

PART 2 PRODUCTS

2.01 MATERIALS

A. Portland Cement: Meeting ASTM C150-97, natural color, domestic manufacturer.
   1. Normal weather and conditions: Type I.
   2. Cold weather: Type III or Type IIIA.

B. Masonry Cement: Meeting ASTM C91-96, non-staining, 22% maximum air content by volume.

C. Hydrated Lime: Meeting ASTM C207-91 (1992), Type S.

D. Aggregate:
   1. Mortar: Clean, hard, natural, washed sand meeting ASTM 144-93 and ASTM C404-95, Size No. 1, natural.
   2. Cement grout: Meeting ASTM C404-95, fine aggregate, Size No. 1.

E. Water Reducing and Plasticizing Admixture:
   1. Acceptable products:
      a. Chem-Masters Corp.: WR-77
      b. Dur-O-Wal, Inc.: Dur-O-Guard
      c. Sonneborn-ChemRex: Trimix^{R}
   2. Characteristics:

a. Admixtures containing calcium chloride are prohibited.
b. Meet ASTM C494-92.

F. Non-Shrink Grout:
1. Acceptable products:
a. Gifford-Hill and Company; Supreme Grout.
b. W. R. Meadows Company; 588.
c. Master Builders; Masterflow 713.
d. U. S. Grout Corp.; Five Star Grout.
2. Meet requirements of Corps of Engineers Specification CRD-621-82 for non-shrink grout at all flow levels with no bleeding.

G. Water: Clean, potable free from deleterious amounts of alkalies, acids, and organic materials.

2.02 MIXES

A. Proportions:
1. Type "S" job mixed or bag mixed mortar: Proportion materials by volume in accord with ASTM C270-97, or as follows:
a. One part masonry cement to 1/2 part Portland cement to aggregate proportioned at not less than 2-1/4 nor more than three times volumes of cementitious materials used OR
b. One part Portland cement and over 1/4 to 1/2 parts Type "S" hydrated lime to aggregate proportioned at not less than 2-1/4 nor more than 3 times combined volume of cement and lime used.
2. Fine Grout: Proportion materials by volume in accord with ASTM C476-95 at one part Portland cement to 0.0 to 1/10 part hydrated lime to fine aggregate proportioned at not less than 2-1/4 nor more than 3 times sum of volumes of cement and lime used.
3. Coarse grout: Proportion materials by volume in accord with ASTM C476-95 at one part Portland cement and 0.0 to 1/10 part lime to coarse aggregate proportioned at not less than one nor more than two times sum of volumes of cement and lime used and slump measured according to ASTM C143-90a of 8 in.
4. Non-shrink grout: Mix prepared product with water directed by manufacturer's printed product data to achieve minimum compressive strength of 7000 psi at 28 days.
5. Premixed masonry cement: Proportion with aggregate to comply with property specifications of ASTM C270-97, for Type "S" mortar.
6. Ready-mixed mortar: Use of ready-mix mortars using Spec Mix admixtures meeting property specifications of ASTM C270-97, for Type "S" mortar is acceptable. Colored mortar Type P/L “S”, color code LM 6003-10 manufactured by Spec Mix of Flanders, N.J. Produce a cured mortar sample, compare sample with mortar on Bennett-Smith Building. Mortar must match colors.

B. Mixing:
   1. Mix mortar and cement grout in power driven type mixers. Operate mixer minimum of five minutes after addition of all materials.
   2. Add water reducing and plasticizing admixture in accord with admixture manufacturer's product data for job mixed mortars.
   3. Addition of other admixtures including anti-freeze ingredients is prohibited.
   4. Measure materials for job mixed mortars in containers with known volume; measurement by shovels is prohibited.

C. Locations:
   1. Concrete unit masonry: Type "S".
   2. Below grade brick and concrete unit masonry: Type "M".
   3. Interior non-load bearing partions: Type "O".
   4. Exterior brick unit masonry: Type "S".

PART 3 EXECUTION

3.01 INSTALLATION

A. Place mortar as directed with Concrete Unit Masonry Section.

B. Retemper mortar to keep plastic. Use of mortar after setting has begun or after 2-1/2 hours has elapsed since initial mixing is prohibited.

C. Grout placement specified in other Sections.

END OF SECTION

MASONRY ACCESSORIES

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Products specified as standard of quality are manufactured by Dur-O-Wal, Inc.
   2. Products of the following manufacturers similiar in type and quality are acceptable, subject to compliance with specified requirements.
      a. AA Wire Products Company.
      b. Heckmann Building Products, Inc.
      c. Hohmann & Barnard, Inc.
      d. Masonry Reinforcing Corp. of America.
      e. National Wire Products Corp.

2.02 MATERIALS

A. Masonry Joint Reinforcement:
   1. Fabricate from cold drawn wire meeting ASTM A82-95a.
   2. Galvanize items in accord with ASTM A153-95, Class B-2.
   3. Longitudinal rods: Nine gauge deformed wires.
   4. Cross wires: Nine gauge wire; butt weld to longitudinal rods.
   5. Type: Duro-O-Wal, Inc.; D/A 320 Ladur Type ^{R} or Duro-O-Wal, Inc.; D/A 310 Truss with two longitudinal rods.
   6. Reinforcement width: 2 in. less than total wall width.
   7. Provide reinforcement in 10 ft. lengths with prefabricated "L" and "T" units at intersecting walls of same design and finish as joint reinforcement.

B. Dovetail Slots and Anchors:
   1. Slots: Dur-O-Wal, Inc.; D/A 100 filled; 24 gauge steel; galvanized in accord with ASTM A153-95, Class B-2, minimum.
   2. Brick anchors: Dur-O-Wal, Inc.; D/A 720; 16 gauge steel; galvanize in accord with ASTM A153-95, Class B-2, minimum; 3-1/2 in. long beyond dovetail.

C. Veneer Wall Ties for Studs, Select from System Types Specified:
   1. Type: Dur-O-Wal, Inc.; D/A 213; 14 gauge reinforced steel plate with 3/16 in. dia. ties adjustable veneer stud anchors and pintle;

galvanize in accord with ASTM A153-95, Class B-2, minimum.
OR

2. Type: Dur-O-Wal, Inc.; D/A 210; combination 14 gauge bent plate hot dip galvanized in accord with ASTM A153-95, Class B-2 with 3/16 in. dia.tri-tie; galvanize in accord with ASTM A153-95, Class B-2.
3. Length: Required to attach to sheathing face and embed 2 in. minimum in brick bed joints.
4. Screws: Two Dur-O-Wal, Inc.; DA807 Corrosion Resistant Screws or SFS-SX3 stainless steel screws per anchor.

D. Adjustable Wall Ties for New Masonry:
1. Type: Dur-O-Wal, Inc.; D/A 515; two piece rectangular pintle and eye section type; 3/16 in. dia. steel wire meeting ASTM A82-95a; galvanize in accord with ASTM A153-95, Class B-2, minimum.

E. Reinforcement Bar Positioners:
1. Horizontal bars: Dur-O-Wal D/A 811; nine gauge basic bright finish steel wire meeting ASTM A82-95a.
2. Vertical bars: Dur-O-Wal D/A 810; nine gauge basic bright finish steel wire meeting ASTM A82-95a.

F. Mesh Hardware Cloth: Duro-O-Wal, Inc.; Dur-O-Stop; monofilament corrosion resistant screen; width 2 in. less than wall width.

G. Weep Hole: Dur-O-Wal D/A 1005; clear plastic; 3/8 in. O.D. by 4 in. long.

PART 3 EXECUTION

3.01 INSTALLATION

A. General: Install accessories in accord with manufacturer's product data.

B. Masonry Joint Reinforcement:
1. Install in single wythe masonry walls at 1 ft. 4 in. o.c. vertically unless otherwise indicated on drawings. Lap side rods 6 in. minimum at splices.
2. Fully embed longitudinal rods in mortar for entire length with 5/8 in. minimum cover on exterior wall side and 1/2 in. minimum cover at other locations.
3. Stop reinforcement 1 in. back from expansion and control joints and openings in masonry walls.
4. Masonry openings over 1 ft. wide: Install reinforcement in first and second bed joint above and under openings with non-continuous reinforcement; extend 2 ft. beyond jamb, each side;

bridge control joints.

5. Build in prefabricated "L" and "T" sections to provide continuity at corners and intersections.
6. Cut and bend units as indicated in manufacturer's installation instructions for continuity at returns, offsets, pipe enclosures, and special conditions.
7. Install pintles in each eye section of reinforcing just prior to installing exterior wythe for cavity wall construction if eye and pintle system selected.

B. Dovetail Anchor Slots: Install vertically in cast-in-place concrete surfaces adjacent to masonry walls. Install anchors at 1 ft. 4 in. o.c. maximum vertically just prior to installation of masonry facing.

C. Veneer Wall Anchors for Studs:
1. Mechanically fasten wall anchors to studs after sheathing installation with corrosion resistant fasteners specified. Use of bugle head drywall screws are prohibited.
2. Space anchors maximum of 2 ft o.c. horizontally and 1 ft. 4 in. o.c. vertically with maximum 2.67 sq. ft. wall area per tie.

D. Adjustable Wall Ties for Masonry:
1. Install in concrete unit masonry walls to receive brick facing.
2. Space ties not exceeding 1 ft. 4 in. o.c. vertically and 2 ft. o.c. horizontally with maximum 2.67 sq. t. wall area per tie.
3. Install pintle in each eye section of reinforcing just prior to installing exterior wythe.

E. Reinforcement Bar Positioners:
1. Vertical type: Install in accord with ACI Committee 530 Code recommendations.
2. Horizontal type: Install in U-block or lintel block in accord with code requirements.

F. Mesh Hardware Cloth: Install in bed joints of concrete unit masonry where indicated to prevent migration of grout.

G. Weep Holes: Install in head joints of brick unit masonry above embedded flashing. Space weep holes formed from plastic tubing at 24 in. O.C.

END OF SECTION

BRICK UNIT MASONRY

PART 1 GENERAL

1.01 SUMMARY

A. Mock-Ups:
   1. Lay 6 ft. long by 4 ft. high sample wall panel of face brick; orient panel as directed by for approval by Owner and Architect.
   2. Indicate the following:
      a. Bonding.
      b. Mortar color.
      c. Joint tooling.
      d. Brick color and texture.
      e. Reinforcement.
      f. Workmanship.
      g. Weep system.

B. Environmental Requirements:
   1. Laying masonry when temperature of surrounding air has dropped below 45 degrees F, unless temperature is rising, or at any time when temperature has dropped below 40 degrees F, is prohibited, except by written permission from Architect.
   2. Cold weather precautions:
      a. Authorized masonry Work during temperatures below 40 degrees F, but above freezing: Provide and maintain mortar at temperature between 40 degrees F and 120 degrees F until placed.
      b. Maintain air temperature above 40 degrees F on both sides of masonry for at least 72 hours after laying.
      c. Use windbreaks to protect masonry construction from direct exposure to winds in excess of 15 MPH when constructed in temperatures below 32 degrees F.
   3. Protect masonry construction from direct exposure to wind and sun when erected in ambient air temperatures 95 degrees F and above in the shade with relative humidity less than 50%.

PART 2 PRODUCTS

2.01 MATERIALS

A. Face Brick:
   1. Quality: Meeting ASTM C652-01a, Grade SW, Type HBS or ASTM C 216-87, Grade SW, Type FBS.

2. Size: King; 3" by 2 3/4" by 9 5/8".
3. Face brick: As selected by Owner and Developer.
4. Special shapes: Provide shapes, including but not limited to, special fabricated water tables, arches, and solid units; same quality, color and texture as face brick.

B. Weep and cavity materials:
1. Select from either material:
   a. Weep Hole: See Section 04150.
   b. Head joint ventilator, acceptable product: Dur-O-Wal, Inc.; D/A 1006 Cell-Vent.
2. Cavity french drain materials; select from either type:
   a. Coarse aggregate: Bagged, washed pea gravel, 100% passing 3/8 in. screen, 100% retained on No. 8 screen when tested in accord with ASTM D3398-81.

C. Masonry cleaning compound, acceptable products:
1. Hallmark Chemical Corp.; DC-6.
2. National Chemsearch Corp.; Deox.
3. ProSoCo, Inc.; Sure-Klean 600 Detergent or Vana-trol.

PART 3 EXECUTION

3.01 INSTALLATION

A. Protection:
1. Keep walls dry during erection by covering at end of each day or shutdown period with waterproof material; overhang wall at least 2 ft.; anchored each side of wall.
2. Remove misplaced mortar or grout immediately.
3. Protect face materials against staining.
4. Protect sills, ledges, and offsets from mortar droppings during construction.
5. Dryclean brick at the end of each day's production.

B. Workmanship:
1. Installing cracked, broken, or chipped units exceeding ASTM allowances is prohibited.
2. Use abrasive power saws to cut brick. Avoid slivers less than 2 in. wide.
3. Lay brick plumb, true to line, and with level courses; space within allowable tolerances.
4. Furrowing bed joints is prohibited.
5. Stop off horizontal run by racking back in each course; toothing is prohibited.
6. Adjust units to final position while mortar is soft and plastic.

7. Units displaced after mortar has stiffened: Remove, clean joints and units of mortar; relay with fresh mortar.
8. Cut and patch finish masonry to accommodate Work of other trades without marring finished surface appearance.
9. Adjust shelf angles to keep Work level and at proper elevation.
10. Mix units from pallets in Work to diminish noticeable variation in color and texture between pallets.
11. Provide pressure relieving joints by placing continuous 1/8 in. foam neoprene pad under shelf angle.
12. When joining fresh masonry to set or partially set masonry, remove loose brick and mortar; clean and dampen exposed surface of set masonry prior to laying fresh masonry.
13. Keep cavity clean of mortar; trowel protruding mortar fins in cavity flat to inner wythe face.

C. Building in Other Work:
1. Build in Work of other trades indicated to be built-in with brick as Work progresses; include anchors, wall plugs, expansion joints, and accessories. Space and align built-in parts; exercise care not to disturb other materials from position.
2. Fill hollow metal frames in brick walls with fine grout as wall is laid. Rake back 1/2 in. joint between hollow metal frame and adjacent brick to receive sealant.

D. Mortar Beds:
1. Lay brick with full mortar coverage on horizontal and vertical joints in all courses.
2. Provide sufficient mortar on ends of brick to fill head joints.
3. Rock closures into place with head joints thrown against two adjacent bricks already in place.
4. Do not pound corners or jambs to fit stretcher units after setting into place.
5. Remove mortar and replace with fresh mortar where adjustment to corners or jambs must be made after mortar has started to set.

E. Mortar Joints:
1. Nominal thickness: 3/8 in.
2. Tool joints exposed in finished Work when "thumb print" hard. Tool joints using round jointer slightly larger than width of joint.
3. Use plexiglass tool to compact joints where white or light colored mortar is used.
4. Tool joints: Concave.
5. Trowel point or concave-tool joints below grade.
6. Flush cut joints not to be exposed in finished Work or otherwise tooled.

F. Bonding Pattern: Lay brick in common running bond, soldier, and other patterns indicated.

G. Tuck Point Joints:
   1. Rake mortar joints to depth of 1/2 in. to 3/4 in.
   2. Saturate exposed joints with clean water.
   3. Fill joints solidly with pointing mortar.
   4. Tool joints to match existing.

H. Control Joints:
   1. Keep clean of mortar and debris. Make joints 3/4 in wide.
   2. Space control joints as indicated.
   3. Coordinate location of control joints in brick Work with control joints in concrete unit masonry backup.
   4. Control joints are to have backer rods and to be sealed with sealant.

I. Reinforcing and Wall Ties:
   1. Install in accord with requirements of Masonry Accessories section.

J. Flashing:
   1. Clean masonry surfaces smooth; maintain free from projections capable of puncturing flashing material.
   2. Place through-wall flashing as specified in Section 07650 on bed of mortar; cover with mortar.

K. Weep Holes:
   1. General:
      a. Provide weep holes in exterior masonry wythe at 2 ft. o.c. horizontally at heads and sills of openings, in exterior walls at grade, and other locations where flashing is indicated.
      b. Keep weeps and area above flashing free of mortar droppings.
   2. Weep Holes: Install plastic weep holes per manufacturers recommendations.
   3. Head joint ventilator: Install in head joints in accord with manufacturer's installation instructions.
   4. Cavity french drain construction:
      a. Coarse aggregate: Place 3 in. depth washed pea gravel continuous in cavity at flashing forming "French Drain" to protect weep system from excess mortar droppings for either weep system selected; dam edges at flashing termination to hold gravel in place. Place gravel when brick units are not more than two courses above weep material.

L. Sealant Joints: Retain 1/2 in. deep by 1/4 in. wide sealant joint around outside perimeter of exterior doors, window frames, and other wall openings.

M. Pointing: Cut out defective mortar joints and holes in exposed Work. Repoint with new mortar.

N. Dry Cleaning: Brush brick surfaces with stiff bristle brush. Do not allow mortar droppings to harden on exposed surfaces. Perform brushing on a daily basis.

O. Tolerances:
1. Maximum variation from plumb:
   a. Lines and surfaces of walls and arrises:
      1) 1/4 in. in 10 ft.
      2) 3/8 in. in any story or 20 ft. maximum.
      3) 1/2 in. in 40 ft. or more.
   b. External corners, expansion joints, and other conspicuous lines:
      1) 1/4 in. in any story or 20 ft. maximum.
      2) 3/8 in. in 40 ft. or more.
2. Maximum variation from level or grades for exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines:
   a. 1/4 in. in any bay or 20 ft.
   b. 1/2 in. in 40 ft. or more.
3. Maximum variation of linear building line from established position in plan and related portions of columns, walls, and partitions:
   a. 1/2 in. in any bay or 20 ft.
   b. 3/4 in. in 40 ft. or more.
4. Maximum variation in cross-sectional dimensions of columns and thickness of walls: Not less than 1/4 in. smaller nor more than 1/2 in. larger than indicated.

P. General:
1. Remove stains in accord with recommendations of Brick Institute of America, Technical Notes #20 REV. Reissued June 1987. Use cleaning agents only after pre-testing on sample panel.
2. Test panel:
   a. Apply solution on half of surface of mock-up panel at least 21 days prior to application of cleaning solution to brickwork.
   b. Should discoloration of brick or mortar joints, staining, or efflorescence appear on sample panel, notify Architect in writing; await further instructions.
3. Wet cleaning within seven days of placing masonry is prohibited.

Q. Preparatory Work:
1. Protect materials adjacent to brick Work subject to corrosion from contact with cleaning solution.
2. Saturate mortar joints with clean water; flush off loose debris at least two hours prior to cleaning solution application to brick.

R. Manufactured Cleaning Compound:
1. Apply on brick unit masonry as tested on mock-up panel in accord with manufacturer's product data; flush with clean water.

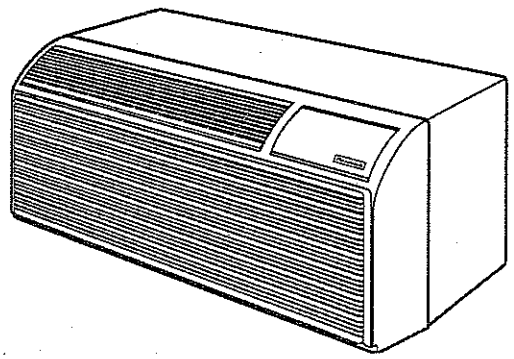
2. Begin cleaning process at highest point of wall, working downward. Work in areas of 20 sq. ft. maximum. Flush wall as cleaning progresses to prevent accumulation of scum.
3. Scrubbing mortar joints with cleaning solution is prohibited.

S. Safely discard solutions containing debris and residue.

END OF SECTION

Friedrich

INSTALLATION & OPERATION GUIDE



920-087-06 (4-08)

PTAC

PACKAGED TERMINAL AIR CONDITIONERS & HEAT PUMPS

Standard Control
Remote Thermostat
Seacoast Protected

Table of Contents

Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.

This is a safety Alert symbol.
This symbol alerts you to potential hazards that can kill or hurt you and others.
All safety messages will follow the safety alert symbol with the word "WARNING" or "CAUTION". These words mean:

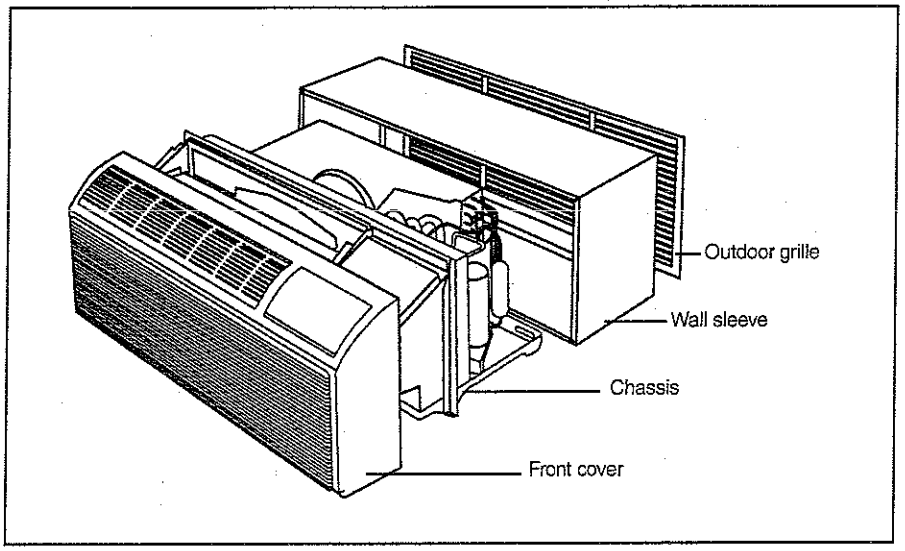
⚠WARNING You can be killed or seriously injured if you do not follow instructions.

⚠CAUTION You can receive minor or moderate injury if you do not follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what will happen if the instructions are not followed.

NOTICE A message to alert you of potential property damage will have the word "NOTICE". Potential property damage can occur if instructions are not followed.

Typical Unit Components

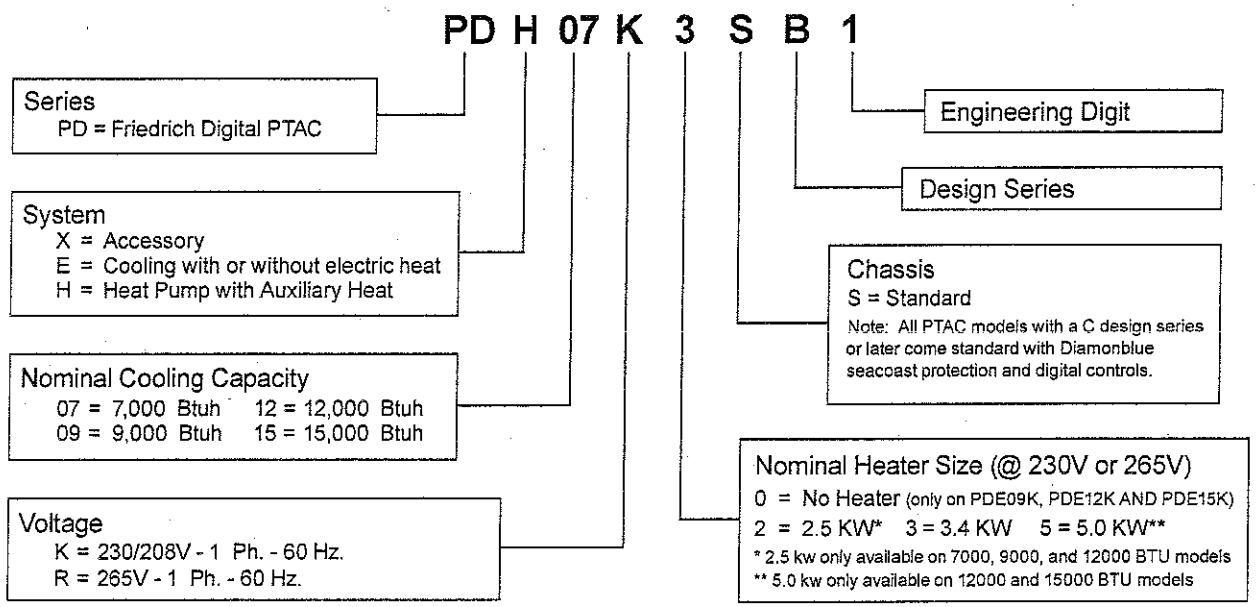


Thank you for your decision to purchase the newly designed Friedrich Packaged Terminal Air Conditioner (PTAC). We are confident that you will find this unit a quiet and efficient example of Friedrich reliability.

This Installation and Operation Manual has been designed to insure maximum satisfaction in the performance of your unit. For years of trouble-free service, please follow the installation instructions closely. We cannot overemphasize the importance of proper installation. We have added new information to the basic instructions to help you achieve success.

Remember, proper installation is not difficult but it is essential.

Model Number Code



⚠ WARNING

Please read this manual thoroughly prior to equipment installation or operation. It is the installer's responsibility to properly apply and install the equipment. Installation must be in conformance with the NFPA 70-2008 National Electric Code or current edition and Uniform Mechanical Code current edition and applicable local or national codes.

Failiure to do so can result in property damage, personal injury and/or death.

PTAC Installation Recommendations

For proper PTAC unit performance and maximum operating life please refer to the minimum installation clearances below:

Figure 1

PTAC units should be installed no closer than 12" apart when two units are side by side. If three or more PTAC units are to operate next to one another allow a minimum of 36" between units. Also, a vertical clearance of 60" should be maintained between units installed.

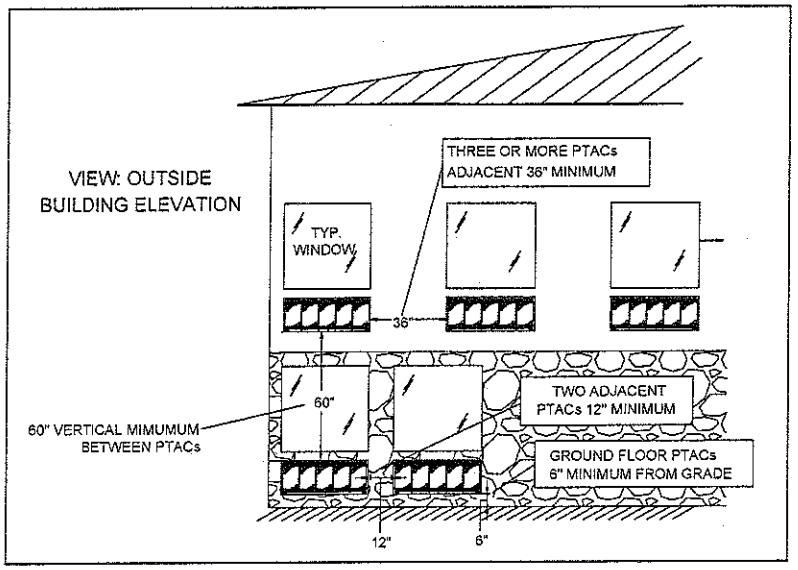
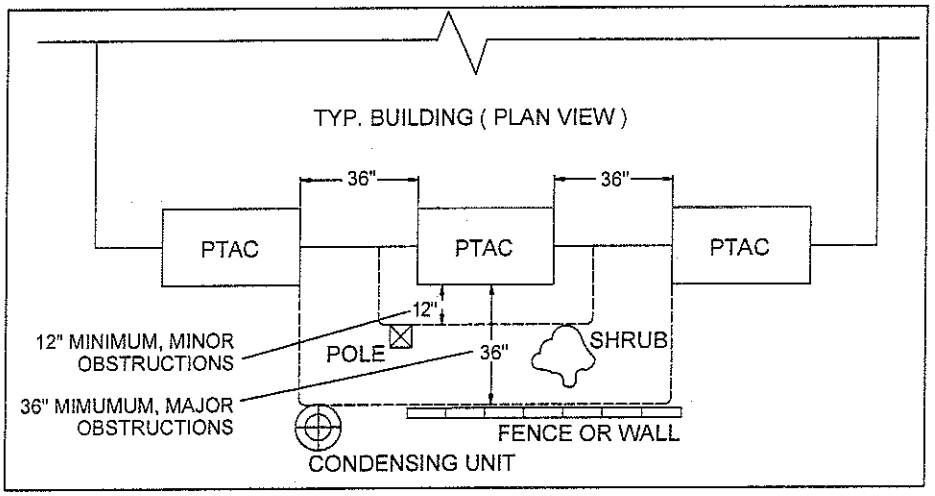


Figure 2

For PTACs on the ground floor or anytime obstructions are present, use the following guidelines:

- For minor obstructions such as lamp poles or small shrubbery a clearance of 12" from the outdoor louver should be maintained.
- For major obstructions such as a solid fence, wall or other heat rejecting device like a condensing unit, a minimum distance of 36" should be kept.



The above suggestions are for reference only and do not represent all possible installations. Please contact the factory for information regarding affects of other installation arrangements. By following these simple recommendations you can be confident that your Friedrich PTAC will provide years of worry free operation.

Friedrich Digital Control Features

The new Friedrich digital PTAC has state of the art features to improve guest comfort, indoor air quality and conserve energy. Through the use of specifically designed control software for the PTAC industry Friedrich has accomplished what other Manufacturer's have only attempted – a quiet, dependable, affordable and easy to use PTAC.

Below is a list of standard features on every Friedrich PTAC and their benefit to the owner.

Digital Temperature Readout	By digitally monitoring desired room temperature the room is controlled more precisely than conventional systems. The large, easy to read LED display can show either set-point or actual room temperature as selected by owner.
One-Touch Operation	When the unit is powered off the unit can be returned directly to heating or cooling mode by pressing the 'Heat' or 'Cool' buttons without the confusing power up sequence of some controls. One-touch control takes guesswork out of unit control delivering a more enjoyable experience and eliminating front-desk calls.
Individual Mode and Fan Control Buttons	By having separate control buttons and indicators for both fan and mode settings the Friedrich digital control eliminates the confusion of previous digital PTACs. The accurate temperature setting provides greater guest comfort than other systems.
Quiet Start/Stop Fan Delay	The fan start and stop delays prevent abrupt changes in room acoustics due to the compressor energizing or stopping immediately. Upon call for cooling or heating the unit fan will run for five seconds prior to energizing the compressor. Also, the fan off delay allows for "free cooling" by utilizing the already cool indoor coil to its maximum capacity by running for 30 seconds after the compressor.
Remote Thermostat Operation	Some applications require the use of a wall mounted thermostat. All new Friedrich PTACs may be switched from unit control to remote thermostat control easily without the need to order a special model or accessory kit.
Wireless Remote Control Ready	Guests can adjust the temperature and mode of the unit through the use of an optional hand held wireless remote, improving guest comfort and relaxation.
Internal Diagnostic Program	The new Friedrich digital PTAC features a self diagnostic program that can alert maintenance to component failures or operating problems. The internal diagnostic program saves properties valuable time when diagnosing running problems.
Service Error Code Storage	The self diagnosis program will also store error codes in memory if certain conditions occur and correct themselves such as extreme high or low operating conditions or activation of the room freeze protection feature. Storing error codes can help properties determine if the unit faced obscure conditions or if an error occurred and corrected itself.
Constant Comfort Room Monitoring	The on-board processor monitors time between demand cycles (heat or cool) and will cycle the fan every 9 minutes to sample the room condition and determine if the desired conditions are met. This allows the room to have similar benefits to a remote mounted stat without the complication or cost of a wall mounted thermostat.
Electronic Temperature Limiting	By limiting the operating range the property can save energy by eliminating "max cool" or "max heat" situations common with older uncontrolled systems. The new electronic control allows owners to set operating ranges for both heating and cooling independently of one another.
Room Freeze Protection	When the PTAC senses that the indoor room temperature has fallen to 40°F the unit will cycle on high fan and the electric strip heat to raise the room temperature to 46°F then cycle off again. This feature works regardless of the mode selected and can be turned off. The control will also store the Room Freeze cycle in the service code memory for retrieval at a later date. This feature ensures that unoccupied rooms do not reach freezing levels where damage can occur to plumbing and fixtures.
Random Compressor Restart	Multiple compressors starting at once can often cause electrical overloads and premature unit failure. The random restart delay eliminates multiple units from starting at once following a power outage or initial power up. The compressor delay will range from 180 to 240 seconds.
Digital Defrost Thermostat	The new Friedrich PTAC uses a digital thermostat to accurately monitor the outdoor coil conditions to allow the heat pump to run whenever conditions are correct. Running the PTAC in heat pump mode saves energy and reduces operating costs. The digital thermostat allows maximization of heat pump run time.

Friedrich Digital Control Features Continued

Instant Heat Heat Pump Mode	Heat pump models will automatically run the electric heater to quickly bring the room up to temperature when initially energized, then return to heat pump mode. This ensures that the room is brought up to temperature quickly without the usual delay associated with heat pump units.
Even Heat Monitoring	The digital control monitors indoor conditions to ensure that the room temperature is within five degrees of the setpoint. If necessary the unit will cycle the electric heat to maintain the temperature. This feature ensures guest comfort by delivering the heating benefits of an electric heater while maintaining the efficiency benefits of a heat pump.
Fan Cycle Control	The owner may choose between fan cycling or fan continuous mode based on property preference. (Note: Even heat monitoring and quiet start/stop fan delay only operate in fan cycle mode) Fan continuous mode is used to keep constant airflow circulation in the room during all times the unit is 'ON'. Fan cycle will conserve energy by only operating the fan while the compressor or electric heater is operating.
Emergency Heat Override	In the event of a compressor failure in heat pump mode the compressor may be locked out to provide heat through the resistance heater. This feature ensures that even in the unlikely event of a compressor failure the room temperature can be maintained until the compressor can be serviced.
Desk Control Ready	All Friedrich digital PTACs have low voltage terminals ready to connect a desk control energy management system. Controlling the unit from a remote location like the front desk can reduce energy usage and requires no additional accessories at the PTAC.
Indoor Coil Frost Sensor	The frost sensor protects the compressor from damage in the event that airflow is reduced or low outdoor temperatures cause the indoor coil to freeze. When the indoor coil reaches 30°F the compressor is diabled and the fan continues to operate based on demand. Once the coil temperature returns to 45°F the compressor returns to operation.
Ultra-Quiet Air System	The new Friedrich PD series units feature a indoor fan system design that reduces sound levels without lowering airflow and preventing proper air circulation.
High Efficiency	The Friedrich PTAC benefits from quality components and extensive development to ensure a quiet, efficient and dependable unit.
Single Motor	Friedrich's single-motor design allows for enhanced outdoor airflow and simplifies the unit design without the need for redundant components.
Rotary Compressor	High efficiency rotary compressors are used on all Friedrich PTACs to maximize durability and efficiency.
Auxiliary Fan Ready	The Friedrich PTAC features a 24V AC terminal for connection to an auxiliary fan that may be used to transfer air to adjoining rooms. Auxiliary fans can provide conditioning to multiple rooms without the requirement of multiple PTAC units.
Aluminum Endplates	All Friedrich PTACs are built with .04" endplates made from aluminum as opposed to steel. The endplates are typically the most susceptible area for corrosion and aluminum is far more resistant to corrosion than even coated steel.
Diamnonblue Technology	Diamonblue (seacoast protection) protects the outdoor coil from harsh environments. Comes standard on all PTAC units.
Top Mounted Anti-microbial Air Filters	All Friedrich PTAC return air filters feature an anti-microbial element that has proven to prevent mold and bacterial growth in laboratory testing. PDXFT replacement filter kits feature the same anti-microbial agent. All filters are washable and reusable and are easily accessed from the top of the unit without the removal of the front cover.
Filtered Fresh Air Intake	Friedrich PTAC units are capable of introducing up to 70 CFM of outside air into the conditioned space. The outdoor air passes through a mesh screen to prevent debris from entering the airstream.

Installation Instructions PXDR10 Drain Kit

NOTE: Determine whether drain will be located within the wall, on the indoor side, or will drain to the exterior of the building. Follow appropriate instructions below depending on your particular type of installation.

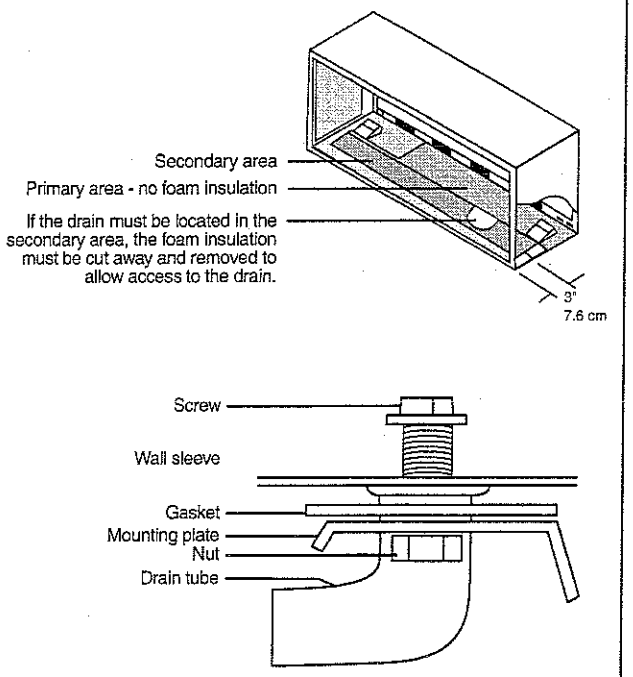
Internal Drain (optional for new construction)

NOTE: If installing an internal drain, you MUST install a drain kit on the wall sleeve before the wall sleeve is installed.

1. Refer to Figure 3 below and locate the drain within the "Primary" area for best drainage. Maintain at least a ½" clearance from the embossed area.
2. Using the mounting plate with the ½" hole as a template, mark and drill two, 3/16" mounting holes and a ½" drain hole.
3. Remove the backing from the gasket and mount it on the flat side of the mounting plate. (See Figure 4.) Insert the drain tube through the hole in the gasket and mounting plate so the tube flange will be against the wall sleeve.
4. Position the assembly beneath the drilled holes and secure it with #10-24 x ½" machine screws and lock nuts provided. Seal the tops of the screws with silicone caulking.
5. Use ½" I.D. copper tube, PVC pipe, or vinyl hose (obtained locally) to connect the internal drain tube to the drain system in the building.
6. Referring to Detail A on page 9, locate and assemble the (2) two cover plates and gaskets over the drain holes at the rear of the wall sleeve. Attach them with the #10 sheet metal screws provided. Make certain that the four overflow slots at the rear of the wall sleeve are not blocked (See drawing of the back of the sleeve on page 9).
7. If a deep wall extension (PXWE) is used, after installing the field supplied flashing, caulk as required. Be sure to caulk around the flashing and the wall sleeve where the hole was drilled for the drain tube.

Figure 3

Drain Kit Location and Installation



External Drain (for new construction or unit replacement)

When using an external drain system, the condensate is removed through either of two drain holes on the back of the wall sleeve. Select the drain hole which best meets your drainage situation and install the drain kit. Seal off the other with a cover plate.

Drain Tube Installation

1. Peel the backing tape off the gaskets and apply the sticky side to one cover plate and one mounting plate as shown in Details A and B.
2. Place the drain tube through the gasket and the mounting plate with the flange toward the wall sleeve.
3. Attach the drain tube assembly to one of the two drain holes at the rear of the wall sleeve. The large flange on the mounting plate is positioned at the bottom of the sleeve facing toward the sleeve, Detail B. When the drain tube is positioned at the desired angle, tighten the screws.

NOTICE If the wall sleeve has not been installed, the drain tube must be rotated to a horizontal position until after the sleeve is installed. Tighten the mounting plate screws when the tube is in the proper position. Make certain that the four overflow slots at the rear of the wall sleeve are not blocked. (See the drawing below.)

Potential property damage can occur if instructions are not followed.

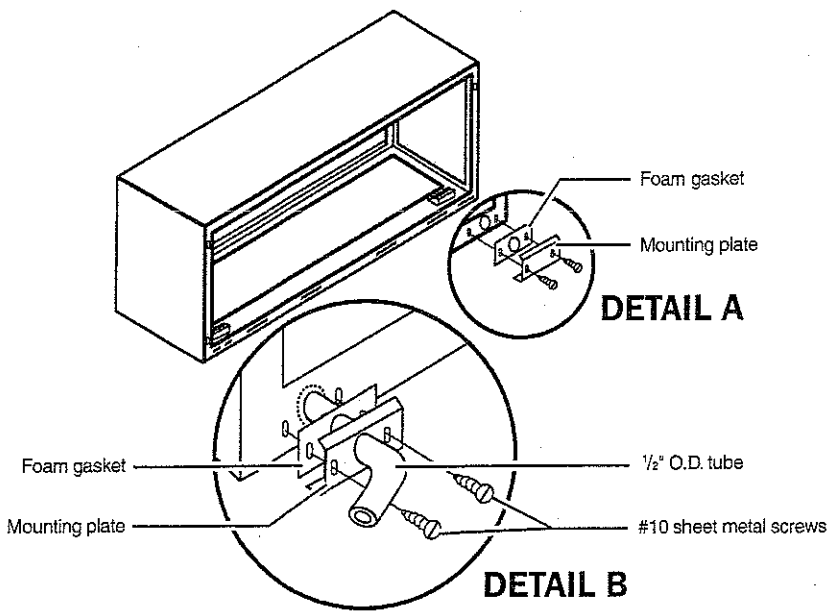
Cover Plate Installation

4. Mount the foam gasket to the cover plate. Using two #10 x ½" sheet metal screws (provided), attach the cover plate to the remaining drain hole. Make certain the large flange on the plate is positioned at the bottom of the sleeve.
5. Discard the additional cover plate, gasket, machine screws, and locknuts.

PXDR10	
QUANTITY	DESCRIPTION
2	COVER PLATES
1	MOUNTING PLATE
1	DRAIN TUBE
3	MOUNTING PLATE GASKETS
4	#10 x ½" MOUNTING SCREWS
2	10-24 x ½" MACH. SCREWS
2	LOCKNUTS

Figure 4

Drain Kit Installation



NOTES:
The large flange on the mounting plate is positioned at the bottom of the sleeve facing toward the sleeve. The drain tube must be rotated to a horizontal position to allow for the wall sleeve to be installed into the wall. Once the wall sleeve is installed, return the drain tube to a downward angle.

⚠WARNING

Falling Object Hazard

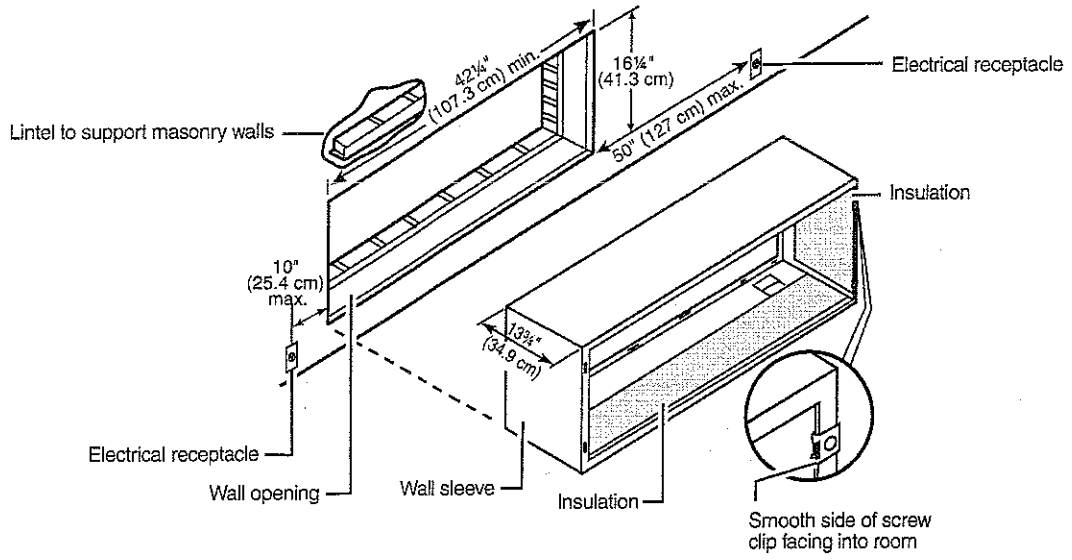
Not following Installation Instructions for mounting your air conditioner can result in property damage, injury, or death.

Wall Sleeve Installation Instructions (PDXWS)

NOTE: Insure that the unit is only installed in a wall structurally adequate to support the unit including the sleeve, chassis and accessories. If the sleeve projects more than 8" into the room, a subbase or other means of support MUST be used. Please read these instructions completely before attempting installation.

Figure 5

Typical Wall Sleeve Installation



Note: All 230/208V units are manufactured with a 60" power cord. The receptacle locations above must be followed to ensure proper connections.

For Deep Wall Installation See Section II

The following instructions apply ONLY to walls less than 13 ¼" in depth.

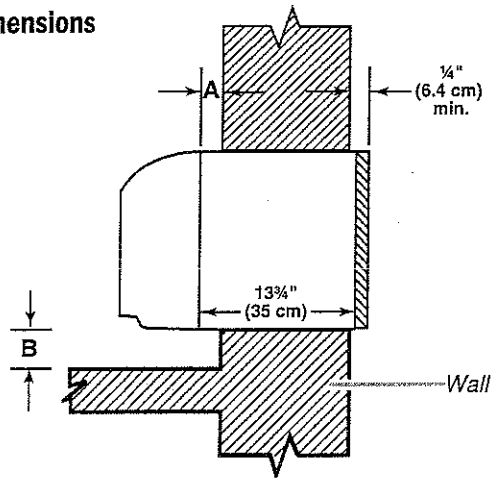
1. From inside the building, position the wall sleeve in the opening and push it through the wall so it protrudes at least ¼" on the outside, note Figure 5.
2. Position the wall sleeve with a slight tilt towards the outside to facilitate condensate drainage. It should be level side-to-side and the front should be ¼ bubble higher than the back.

NOTICE DO NOT allow any pitch toward the inside. Potential property damage can occur if instructions are not followed.

⚠ WARNING

Electrical shock hazard.
Turn electric power OFF at the fuse box or service panel before making any electrical connections and ensure a proper ground connection is made before connecting line voltage. Failure to do so can result in property damage, personal injury and/or death.

Figure 6
Dimensions



Dimension*	A Allow for wall finishing	B Allow for floor finishing	
	(Minimum)	Min.	Max
No Accessories	¼" (6.4 mm)*	¼" (6.4 mm)	—
With Subbase	1¾" (4.5 cm)	3½" (8.9cm)	5" (12.7cm)
With Lateral Duct	¾" (1.9 cm)	¼" (6.4 mm)	—

* If more than one accessory is to be used, use the maximum dimension. If the wall thickness is more than 13¾" (35cm) - (A + ¼" [6.4 mm]), a sleeve extension must be used.

3. Drill two 3/16" holes through each side of the sleeve approximately 4" from top and 4" from bottom of sleeve. Screw four #10 x 1" screws (included) or appropriate fasteners for your installation, through the holes in the sides of the wall sleeve.

4. Apply sealant around the wall sleeve where it projects through the inside and outside wall surfaces. Apply the sealant to the screw heads or the tops of the fasteners used in Step #3.

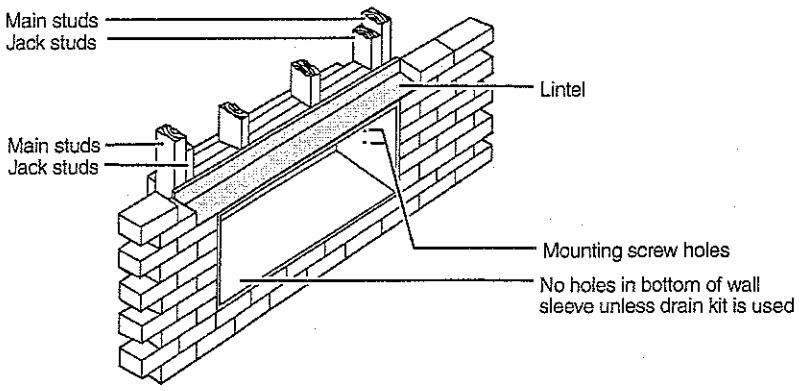
NOTICE When sealing the sleeve on the outside of the building, be careful NOT to let the sealant block the two condensate drain holes or the four overflow slots at the bottom flange of the sleeve.

Potential property damage can occur if instructions are not followed.

5. If the chassis and exterior grille are to be installed later, leave the weatherboard and center support in place, otherwise remove and dispose of them.

6. Provide a support lintel if the wall sleeve is installed in a concrete or masonry wall. (See Figure 7.)

Figure 7
Lintel Installation



NOTE: Construct wall opening to comply with all applicable building codes.

Deep Wall Installation (PXWE)

If the wall is thicker than allowed in the notes in Figure 6, a sheet metal wall sleeve extension or custom deep wall sleeve and flashing MUST be used.

Installation Instructions for the PXWE 4" Wall Sleeve Extension

The following points MUST be considered when installing a wall sleeve extension:

1. Provision must be made to direct excess condensate from the back of the wall sleeve into the extension then outside the building or to a drainage system.
2. Air baffles must be mounted to properly direct air flow to and from the condenser.
3. The wall sleeve extension design must allow for the proper mounting of the grille.
4. Caulking is required at all sites where condensate or external water could potentially infiltrate into the building.
5. Fabricate and install metal flashing in wall to serve as a drip panel. Refer to drawing for more information.
6. Condensate notches and overflow slots must be kept clear of sealant and gaskets so condensate can flow freely into the wall sleeve extension.

NOTICE Potential property damage can occur if instructions are not followed. In Addition, improper field fabrication or improper installation of wall sleeve extension will impair PTAC performance.

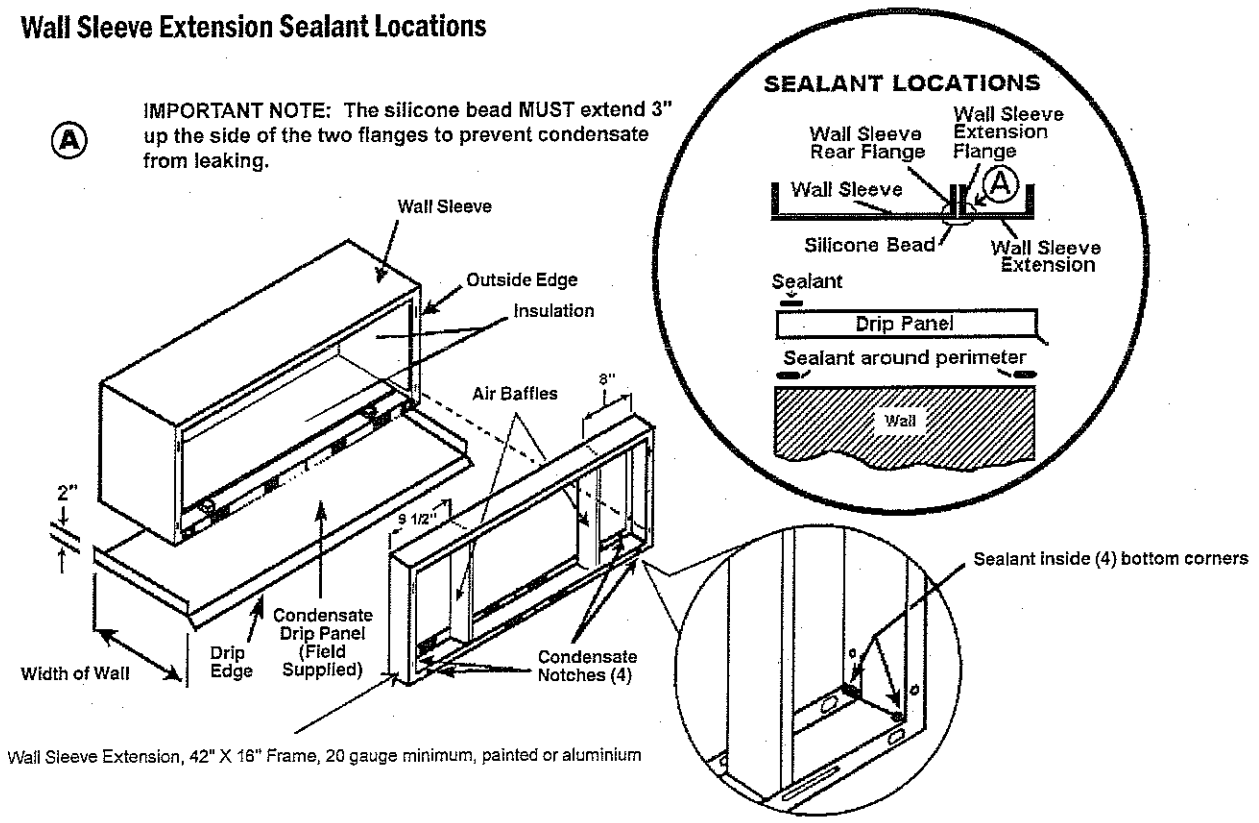
Extension Installation

Secure the wall sleeve extension to the wall sleeve before installing it in the wall. Refer to Figure 8 for a guide for fabrication of a condensate drip panel. The panel MUST extend the full depth of the wall sleeve and the wall sleeve extension.

Pay particular care in sealing and caulking the panel where it makes contact with the wall sleeve (see Figure 8). After installation in the wall, secure with fasteners through the sides. Use a good grade of silicone sealant around the sleeve extension. Seal all exposed screw heads. When the installation is complete, the outside grille should be attached to the wall sleeve extension.

Figure 8

Wall Sleeve Extension Sealant Locations



Installation Instructions Model PXGA Standard Grille

1. Remove the center support and weatherboard if still installed in the sleeve.
2. Insert six plastic grommets into the grille openings from the outside of the grille as shown in Figure 9.
3. Insert two #8 x ⅜" sheet metal screws (provided) in the top two outside edge plastic grommets, and tighten them half way into the grommets.
4. Grasp the grille by the attached plastic handles. Position it with the condensate drain knockouts facing down. From inside the building, maneuver the grille through the wall sleeve and pull toward you until the screw heads are inserted into the keyhole slots at the top of the wall sleeve. Tighten the two screws completely.
5. Insert the remaining screws into the remaining holes and tighten securely.

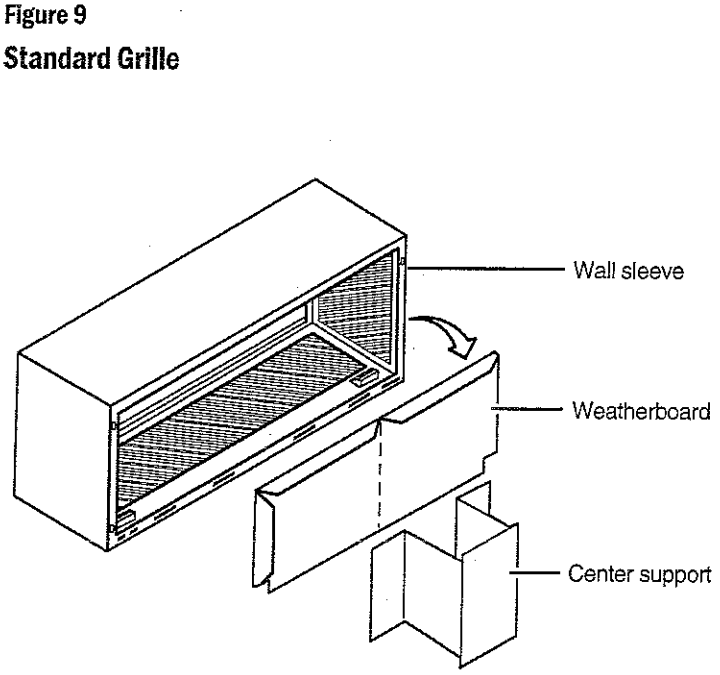
⚠WARNING

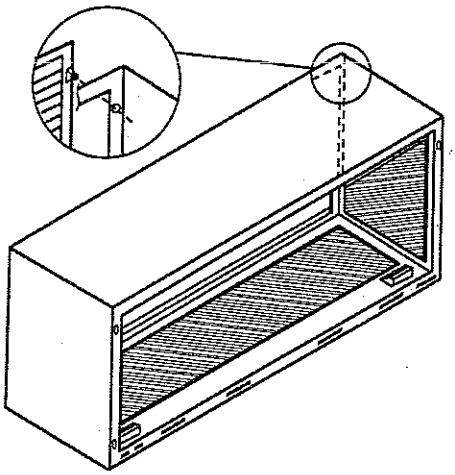
Falling Object Hazard

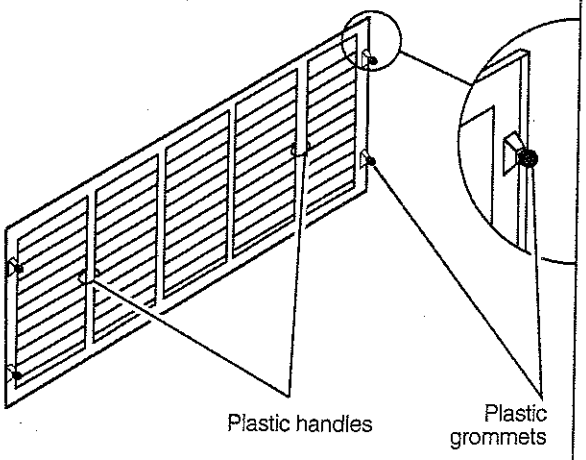
A safety line should be attached to the grille and an anchor point inside the building during installation. Property damage, injury or death can occur by grilles falling from a building during installation.

Figure 9

Standard Grille







PXGA Standard Grille	
Quantity	**Description**
1	Stamped Aluminum Grille
6	Plastic Grommets
6	#8 x ⅜" Sheet Metal Screws

A. Electrical Rating Tables

All 230/208 volt units are equipped with power cords. See Appendix A on page 23 for wiring instructions on 265V units.

NOTE: Use Copper Conductors ONLY. Wire sizes are per NEC, check local codes for overseas applications.

Table 1 *250 V Receptacles and Fuse Types*

AMPS	15	20*	30
RECEPTACLE			
TIME-DELAY TYPE FUSE (or HACR circuit breaker)	15	20	30

HACR – Heating, Air Conditioning, Refrigeration
* May be used for 15 Amp applications if fused for 15 Amp
NOTE: 265 volt units are hard wired.

Table 2 *Recommended branch circuit wire sizes**

NAMEPLATE / MAXIMUM CIRCUIT BREAKER SIZE	AWG WIRE SIZE**
15	14
20	12
30	10

AWG – American Wire Gauge
* Single circuit from main box
** Based on copper wire, single insulated conductor at 60°C

⚠ WARNING

ELECTRIC SHOCK HAZARD! Turn off electric power before service or installation. All electrical connections and wiring **MUST** be installed by a qualified electrician and conform to the National Electrical Code and all local codes which have jurisdiction. Failure to do so can result in property damage, personal injury and/or death.

WIRE SIZE	Use ONLY wiring size recommended for single outlet branch circuit.
FUSE/CIRCUIT BREAKER	Use ONLY type and size fuse or HACR circuit breaker indicated on unit's rating plate. Proper current protection to the unit is the responsibility of the owner. NOTE: A time delay fuse is provided with 265V units.
GROUNDING	Unit MUST be grounded from branch circuit through service cord to unit, or through separate ground wire provided on permanently connected units. Be sure that branch circuit or general purpose outlet is grounded. The field supplied outlet must match plug on service cord and be within reach of service cord. Refer to Table 1 for proper receptacle and fuse type. Do NOT alter the service cord or plug. Do NOT use an extension cord.
RECEPTACLE	The field supplied outlet must match plug on service cord and be within reach of service cord. Refer to Table 1 for proper receptacle and fuse type. Do NOT alter the service cord or plug. Do NOT use an extension cord.
WIRE SIZING	Use recommended wire size given in Table 2 and install a single branch circuit. All wiring must comply with local and national codes. NOTE: Use copper conductors only.

B. Power Cord Information (230/208V models only)

All Friedrich 230/208V PTAC units are shipped from the factory with a Leakage Current Detection Interrupter (LCDI) equipped power cord. The LCDI device meets the UL and NEC requirements for cord connected air conditioners effective August 2004.

To test your power supply cord:

1. Plug power supply cord into a grounded 3 prong outlet.
2. Press RESET.
3. Press TEST (listen for click; Reset button trips and pops out).
4. Press and release RESET (listen for click; Reset button latches and remains in). The power supply cord is ready for operation.

NOTE: The LCDI device is not intended to be used as a switch.

Once plugged in the unit will operate normally without the need to reset the LCDI device. If the LCDI device trips and requires resetting the cause of the trip should be identified prior to further use of the PTAC.

If the device fails to trip when tested or if the power supply cord is damaged it must be replaced with a new supply cord obtained from the product manufacturer, and must not be repaired.

Figure 10a
15/20A LCDI Device

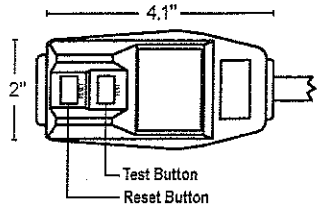
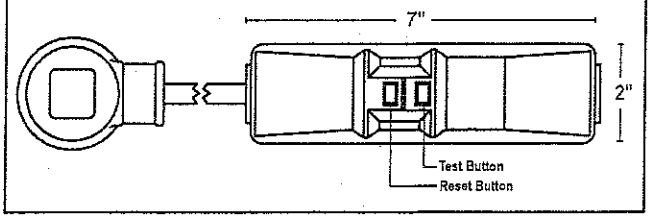


Figure 10b
30A LCDI Device



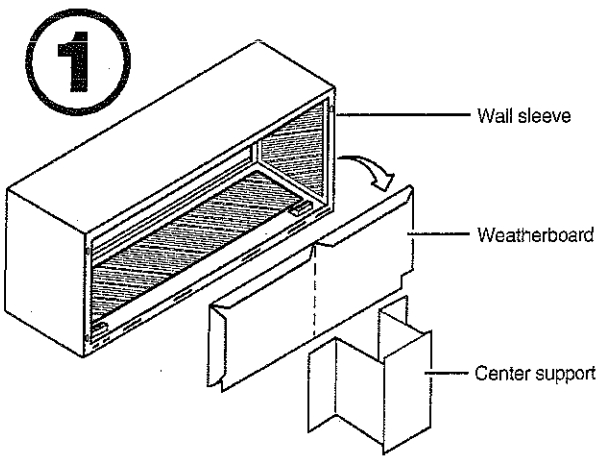
Installation Checklist

- ☐ Inspect all components and accessories for damage before and after installation.
- ☐ Remove the cardboard wall sleeve support and grille weatherboard.
- ☐ Check for proper wall sleeve installation in accordance with the wall sleeve installation instructions.
- ☐ Check for a subbase kit or other means of structural support which is required for ALL installations projecting more than 8" into room.
- ☐ Install the recommended Condensate Drain Kits for complete condensate removal.
- ☐ Ensure that the chassis is installed in a 16" high x 42" wide wall sleeve that is no deeper than 13 ¾". A baffle kit is required if the sleeve exceeds that depth.
- ☐ Ensure that drapes, bed, bedspread, furniture, etc. DO NOT block either return or discharge air grilles.
- ☐ Inspect the condenser air inlet and outlet for any obstructions (shrubbery, etc.)
- ☐ Ensure that 'reset' button is pressed on LCD device (only on cord connected models)

Section III – Chassis Installation

Check to be sure the wall sleeve, extension (if used), grille, and drain kit are installed properly before chassis installation.

1. Remove the weatherboard and center support from the sleeve (if still in place). Be sure an outdoor grille is attached.



IMPORTANT: Use a wall sleeve adapter kit (PXSE) if installing a P-Series chassis in a T-Series sleeve.

⚠ WARNING

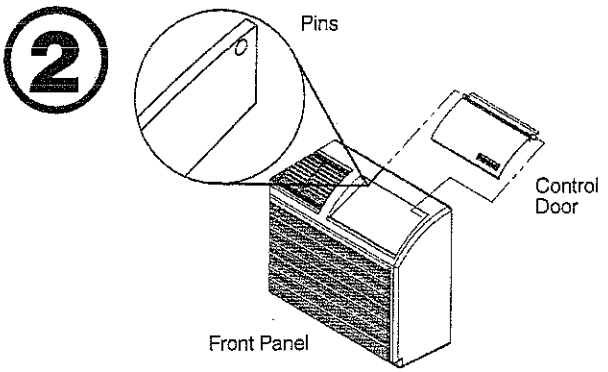
Suffocation hazard
Keep bag away from babies and children.
Do NOT use in cribs, beds or playpens. Destroy immediately after opening. This bag is NOT a toy.
Failure to do so can result in personal injury and/or death

2. Remove the front cover contained in a protective plastic bag from chassis. Remove the bag and dispose of it properly.

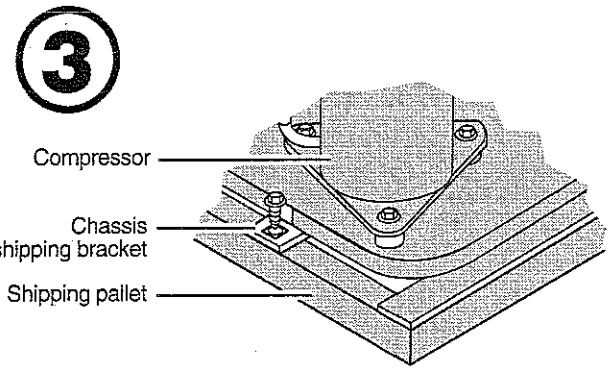
   If the control door is not installed, follow these steps:

- From the front of the cover, slide the right control door pin into the hole on the right side of the front cover. Slide the left door pin into the hole on the left side of the front cover opening and snap it into place.

NOTE: To avoid breaking the door or hinge pins, do not apply excessive force when installing

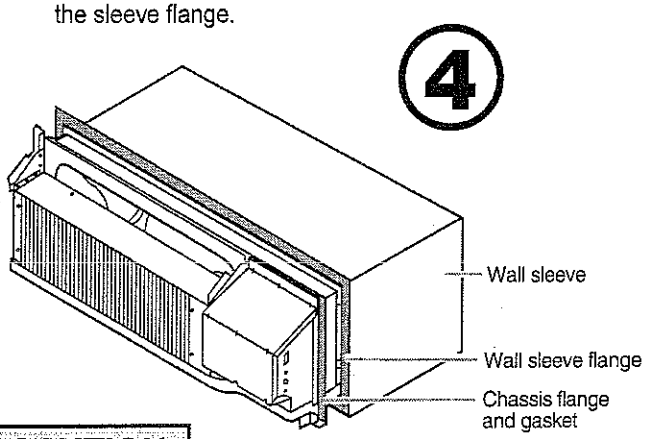


3. Remove the two chassis shipping brackets from the ends of the shipping pallet.



IMPORTANT: When installing a Friedrich P-Series PTAC into an existing sleeve, it is important to ensure that the unit is installed completely. Inspection of the air seal between the condenser air baffles and around the indoor mounting flange is recommended. In some cases additional gaskets or baffling may be required.

4. Center the chassis in the pre-installed sleeve and carefully push the chassis until the chassis flange and gasket contact the sleeve flange.



⚠CAUTION

Cut/Sever

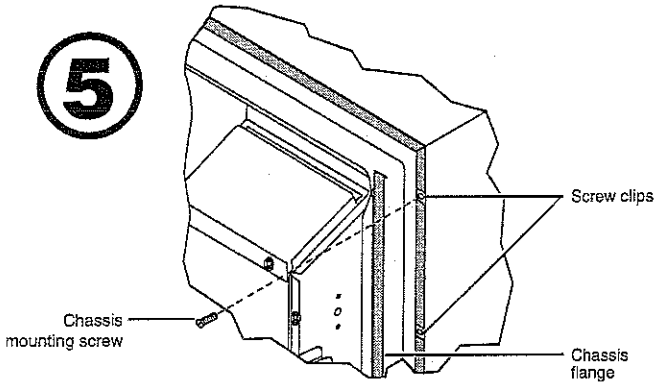
Although great care has been taken to minimize sharp edges in the construction of your unit, use gloves or other hand protection when handling unit.

Failure to do so can result in minor to moderate personal injury.

NOTICE

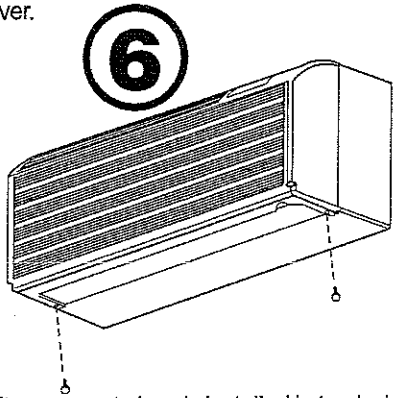
Copper refrigerant tubes are **NOT** handles. Do **NOT** use tubing to lift or move chassis.

NOTE: If the unit is mounted flush to the floor, the service cord MUST be rerouted at the bottom of the front cover on the side closest to the receptacle. A notch MUST be made in the front cover side where the cord exits the unit. It is the responsibility of the installer to create an exit notch. See diagram 8 for suggested opening size and placement.



5. Locate the four #10 x 1" chassis mounting screws. Tighten the screws into the clips - adjacent to the alignment dimples on the mounting brackets on the wall sleeve flange (two per side).

6. Install the front cover assembly (including the discharge grille) by placing the top of the cover onto the 90° angle bracket along the top of the chassis. Rotate the bottom into place and insert the included thumb screws into the slots located at the bottom back corners of the cover. Tighten them into the quick nuts located on the chassis to secure the cover.



7. If the filters are not already installed in tracks in the plastic cover, slide them into place.

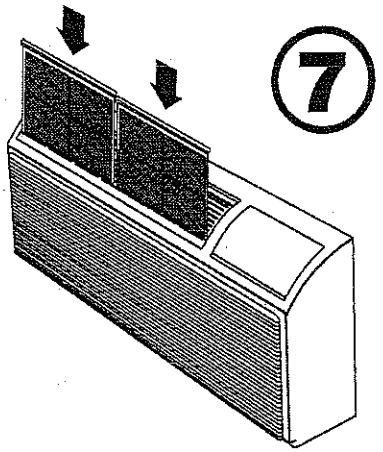
8. Plug the cord (if applicable) into the appropriate receptacle. Extra cord may be coiled inside the front cover behind the return air grille. Restore power to the unit.

⚠CAUTION

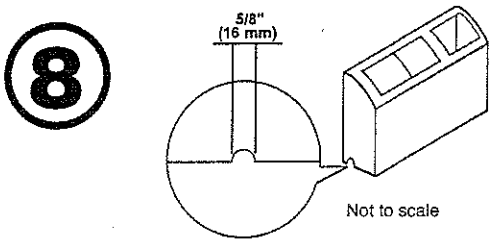
Excessive Weight Hazard

Use two or more people when installing your air conditioner.

Failure to do so can result in back or other injury.



To remove the front cover, remove the thumbscrews at the bottom back corners of the cover (or sides). Pull the bottom end forward and lift it up to clear the L bracket across the top of the chassis.



If a remote thermostat is to be installed, proceed to page 20, Step 1. For a 265 V unit, proceed to Appendix A, Step 1.

Digital Control User Input Configuration

The adjustable control dip switches are located at the lower left hand portion of the digital Smart Center. The inputs are only visible and accessible with the front cover removed from the PTAC.

Dip Switch Setting

1) Electronic Temperature Limiting - Switches 1-4

The digital control is set from the factory to allow a temperature range between 60°F and 90°F in both heating and cooling mode. Dip Switches 1-4 can be used to set high and low limits for either heating or cooling or both.

From the factory all four switches are in the up **'ON'** position. The charts to the right show the available electronic limiting ranges.

2) Fan Cycle Control - Switch 5

All PTACs are shipped from the factory with Dip Switch 5 in the **'OFF'** position to cycle the fan only when there is a demand for the compressor or heater. As an option the fan may be set to 'continuous' mode by switching Dip Switch 5 to **'ON'** position to run the fan continuously while the unit is powered on.

To ensure that the room temperature is maintained evenly while in fan cycle mode the **Even Temp Load Anticipation** feature is enabled. **Quiet Fan Delay** is also enabled in fan cycle mode to lessen the acoustical change between compressor start up and shut off by running the fan for 5 seconds before each demand cycle, and 30 seconds after cooling or 15 seconds after heating cycles.

3) Room Freeze Protection - Switch 6

Units are shipped from the factory with the room freeze protection disabled. Room Freeze Protection can be switched on at the owner's preference by moving Dip Switch 6 to **'ON'**. This feature will monitor the indoor room conditions and in the event that the room falls below 40°F the unit will cycle on high fan with the electric heater. This occurs regardless of mode.

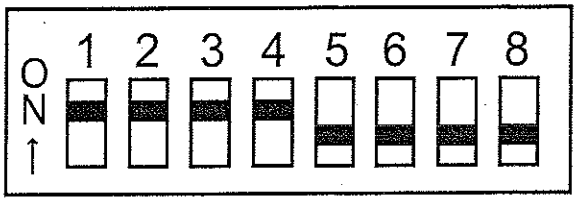
4) Emergency Heat Override - Switch 7

In the unlikely event of a compressor failure a heat pump unit may be switched to operate in only the electric heat mode until repairs can be made. Moving Dip Switch 7 to **'ON'**.

IMPORTANT **PTAC must be disconnected from power supply when making any configuration changes.**

Figure 11

Factory Dip Switch Configuration



Heating Range Switches 1 & 2

Temperature Range		Dip Switch	
Low	High	1	2
60	90	On	On
60	87	Off	On
60	84	Off	Off
60	81	On	Off

Cooling Range Switches 3 & 4

Temperature Range		Dip Switch	
Low	High	3	4
60	90	On	On
63	90	On	Off
66	90	Off	Off
69	90	Off	On

Digital Control Operation

Temperature Display

The Friedrich digital PTAC is shipped from the factory to display the desired room temperature on the LED readout.

The unit can be configured to display the room temperature by simultaneously pressing the ***'Cool'*** and ***'High Fan'*** buttons for three seconds the display will show an 'R' for one seconds to acknowledge the change. The unit will display the setpoint whenever the 'Temp' ∧ or ∨ buttons are pressed and then switch back to room temperature.

To revert back to displaying the setpoint only press the ***'Cool'*** and ***'Low Fan'*** buttons for three seconds simultaneously, the unit will display an 'S' for one seconds to acknowledge the change.

°F vs. °C Display

The unit is factory configured to display all temperatures in degrees Fahrenheit (°F). To switch to degrees Celsius press the ***'Fan Only'*** and **'Low Fan'** buttons simultaneously for three seconds. The display will show a 'C' as acknowledgement of the change.

To revert back to °F press the ***'Fan Only'*** and ***'Low Fan'*** buttons simultaneously for three seconds. The display will show an 'F' as acknowledgement of the change.

Cooling Mode

Pressing the '*Cool*' button while the unit is in any mode, including off, will put the unit into cooling mode. Adjust the temperature readout to the desired room temperature and the unit will cycle the compressor on and off to maintain a comfortable room. The compressor will come on anytime that the room temperature is 1.8°F above the desired temperature. The fan operation is dependent on the fan mode selected, either continuous or cycling. See page 16 for fan cycle control.

Heating Mode

Pressing the 'Heat' button while the unit is in any mode, including off, will put the unit into heating mode.

Heat Pump Models (PDH)

When the 'Heat' button is pressed initially the unit will energize the electric resistance heat to quickly bring the room to the set temperature. When the desired room temperature falls 1.8°F below the desired set temperature the unit will cycle the compressor on and operate as a heat pump to maintain the room temperature while running more efficiently than resistance heat only models. If the room temperature should fall more than 5°F from the set temperature the unit will run the resistance heater. The fan operation is dependent on the fan mode selected, either continuous or cycling. Dip switch 5 controls the fan mode, see page 17 for setting.

When the outdoor coil temperature falls below 30°F for more than 2 minutes the unit will operate the resistance heaters and not the compressor. When the outdoor coil temperature reaches 45°F the compressor will be allowed to operate again.

Heat/Cool Models (PDE)

After pressing the 'Heat' button, adjust the temperature readout to the desired room temperature and the unit will cycle the resistance heat on and off to maintain a comfortable room. The heater will come on anytime that the room temperature is 1.8°F below the desired temperature. The fan operation is dependent on the fan mode selected, either continuous or cycling. Dip switch 5 controls the fan mode, see page 16 for setting.

Emergency Heat Operation

In the event of a compressor failure in heat pump mode the compressor may be locked out to provide heat through the resistance heater. This feature ensures that even in the unlikely event of a compressor failure the room temperature can be maintained until the compressor can be serviced. Dip switch 7 controls the emergency heat setting, see page 16.

Fan Mode

Fan Only

Pressing the '*Fan Only*' button will run the fan to allow for air circulation in the room without operating the compressor or heater regardless of the room or set temperature. The fan speed selection is made by pressing either the '*High Fan*' or '*Low Fan*' button.

Figure 12
Digital Control Panel

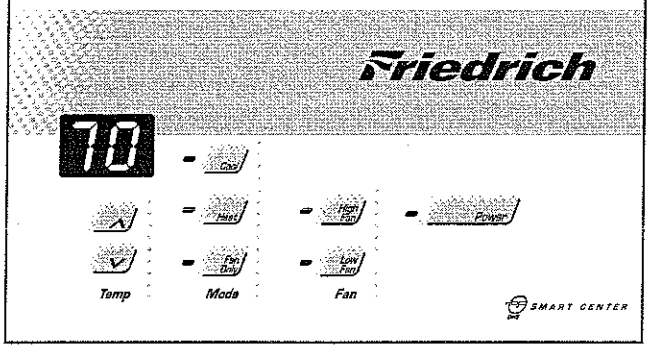
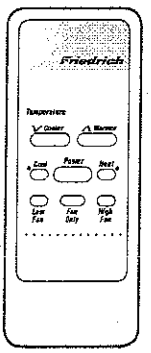


Figure 13
Remote Control



Cycle/Continuous

The owner may choose between fan cycling or fan continuous mode based on property preference (Note: Even heat monitoring and quiet start/stop fan delay only operate in fan cycle mode). Fan continuous mode is used to keep constant airflow circulation in the room during all times the unit is 'ON'. Fan cycle will conserve energy by only operating the fan while the compressor or electric heater is operating. Dip switch 5 controls the fan mode, see page 17 for setting.

Optional Hand Held Remote Control Operation

Friedrich PTAC units can be configured to operate via an optional hand held remote control for added convenience. The PTAC control board comes shipped with all of the necessary hardware to communicate to the PDXRC remote control. In order to operate the unit with the remote control, the remote control sensor must be enabled. Simply press and hold the 'Temp' ∧ and ∨ buttons simultaneously for three seconds, and the LED window will display and "*E*" for confirmation when the remote is enabled. To disable the feature press 'Temp' ∧ and ∨ buttons at the same time for three seconds. LED will display an "*0*" as acknowledgment for one second.

The remote control is now ready for use. The temperature, mode and fan speed control from the remote control will operate the unit the same as the unit mounted controls.

NOTE: The hand held remote control cannot be used in conjunction with a wall mounted thermostat.

Remote Control Operating Range

The hand held remote has an operating range of up to 25 feet. The infrared remote control signal must have a clear path to transmit the command to the PTAC unit. The remote signal has some ability to "bounce" off of walls and furniture similar to a television remote control. The diagram below shows the typical operating range of the control in a standard room with 8 ft high ceilings.

Figure 14

PTAC located in the center of wall

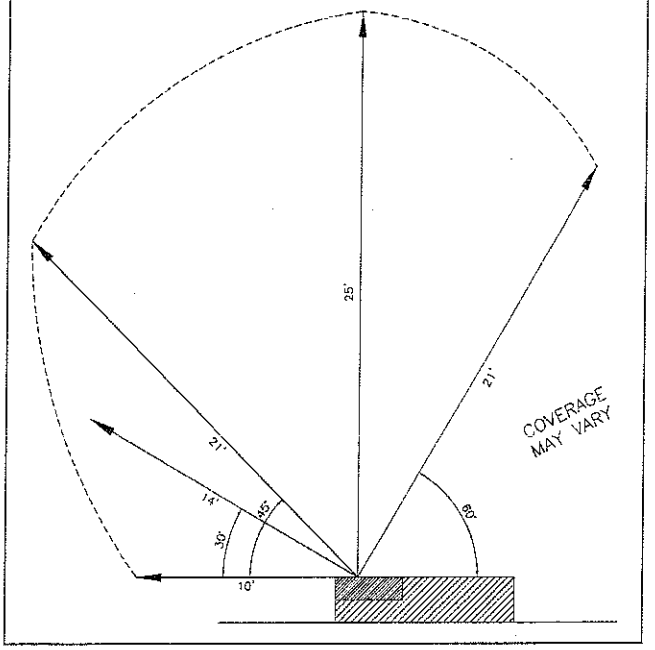


Figure 15

PTAC located with wall to the left

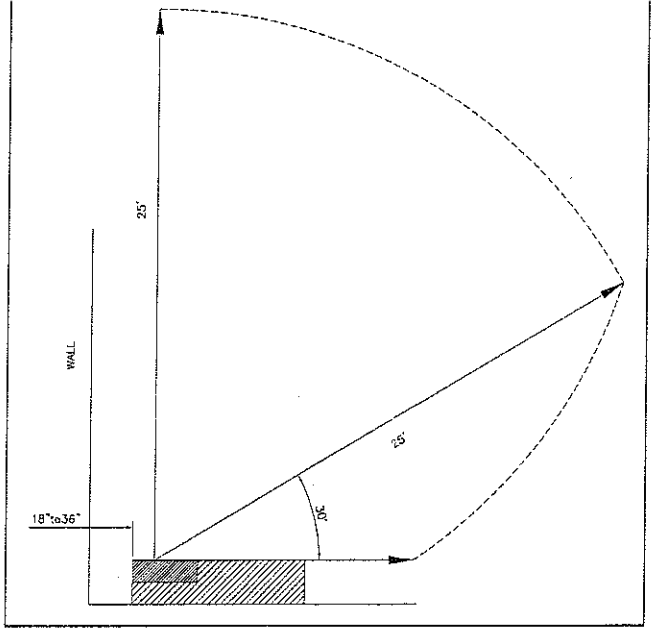
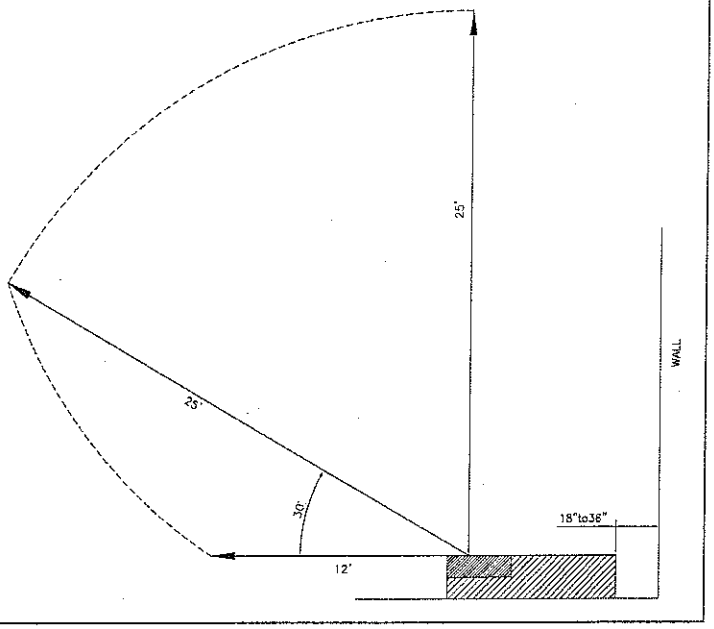


Figure 16

PTAC located with wall to the right



Remote Thermostat and Low Voltage Control Connections

Remote Thermostat

All Friedrich PD model PTAC units are factory configured to be controlled by either the chassis mounted Smart Center or a 24V single stage remote wall mounted thermostat. The thermostat may be auto or manual changeover as long as the control configuration matches that of the PTAC unit.

To control the unit with a wall mounted thermostat follow the steps below:

1) Unplug the unit before doing any work.
2) With the front cover removed locate the low voltage terminal strip at the lower portion of the Smart Center.
3) Remove the jumper between the 'GL' and GH' terminals.
4) The control is now configured for control by a wall thermostat. The Smart Center will no longer control the unit.
5) If desired the accessory escutcheon kit (PDXRT) is to be used, install it over the existing control panel.

Note: To revert back to the Smart Center control of the unit replace the jumper wire between the 'GL' and 'GH' terminals that was removed in step 1.

Thermostat Connections

C = Common Ground
W = Call for Heating
Y = Call for Cooling
R = 24V Power from Unit
GL = Call for Low Fan
GH = Call for High Fan
B = Reversing Valve Energized in heating mode (PDH Models Only)

*If only one G terminal is present on thermostat connect to GL for low fan or to GH for high fan operation.

Figure 17

Control board with optional PDXRT escutcheon kit installed

Desk Control Terminals

The Friedrich PD model PTAC has built-in provisions for connection to an external switch to control power to the unit. The switch can be a central desk control system or even a normally open door switch.

For desk control operation connect one side of the switch to the D1 terminal and the other to the D2 terminal (See figure 17). Whenever the switch closes the unit operation will stop.

Maximum Wire Length for Desk Control Switch

Wire Size	Maximum Length
#24	400 ft.
#22	600 ft.
#20	900 ft.
#18	1500 ft.
#16	2000 ft.

Note: The desk control system and switches must be field supplied.

Auxiliary Fan Control

The Smart Center also has the ability to control a 24VAC relay to activate an auxiliary, or transfer, fan. The outputs are listed as F1 and F2 on the control board.

To connect the relay, simply wire one side of the relay to F1 and the other side to F2. Anytime that the PTAC fan runs the terminals will send a 24VAC signal to the relay. The relay must be 24 VAC, 50mA or less.

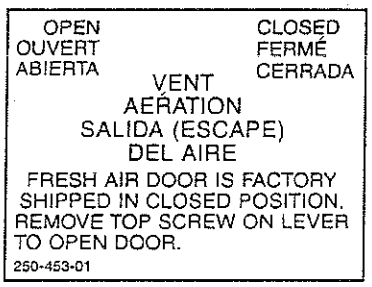
Note: The relay and auxiliary fans must be field supplied.

NOTE: It is the installer's responsibility to ensure that all control wiring connections are made in accordance with the installation instructions. Improper connection of the thermostat control wiring and/or tampering with the unit's internal wiring can void the equipment warranty and may result in property damage, personal injury or death. Other manufacturer's PTACs and even older Friedrich models may have different control wire connections. Questions concerning proper connections to the unit should be directed to the factory.

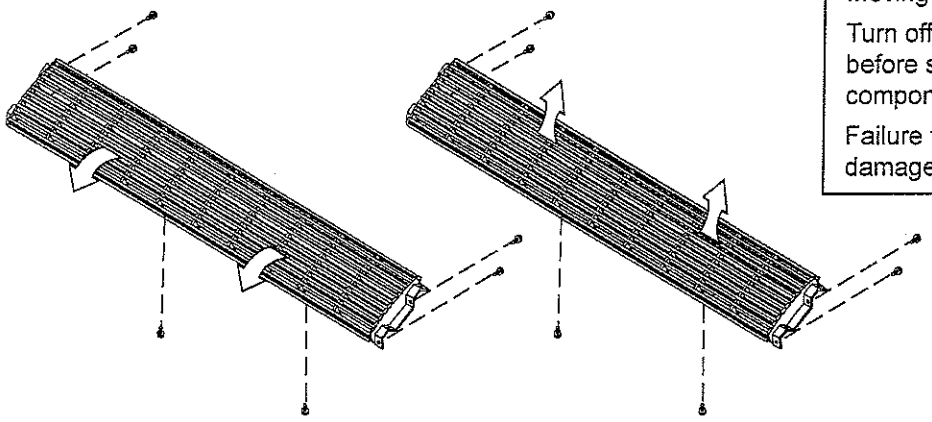
Fresh Air Vent Control

The vent control lever is located behind the front cover on the left side of the unit. The unit is shipped in the closed position with a locking screw in place. The screw must be removed to operate the lever. When the lever is back, (OPEN), outside air is mixed with indoor air. When the lever is forward, (CLOSED), no outside air is admitted into the room and room air is recycled through the unit.

NOTE: The vent should remain closed for peak operating efficiency.



Air Discharge Grille



WARNING

Moving parts hazard.

Turn off electric power before servicing this component.

Failure to do so can result in property damage, personal injury and/or death.

The air discharge grille can be redirected to blow air either straight up or at an angle into the room. To change the airflow direction, remove the front cover, locate and remove the six grill retaining screws. Reverse the ends of the grille and refasten the grille to the cover.

Start-up Checklist

- ☐ Inspect all components and accessories for damage before and after installation.
- ☐ Check installation for compliance with all national and local codes and ordinances.
- ☐ Read and follow all manufacturer's installation instructions.
- ☐ Check that circuit breaker(s) and electrical wire sizes are correct. If the unit is supplied with a power supply cord, insure that it is stored properly.
- ☐ Check the condensate water drain outlet(s) to make sure they are in compliance with all national and local codes, that they are adequate for the removal of condensate water, and that they meet the approval of the end user.
- ☐ Strictly follow installation instructions concerning clearances around the unit.
- ☐ Secure components and accessories, such as the control door and front cover.
- ☐ Check the unit air filter, condenser coil and evaporator coil for any obstructions.
- ☐ Check for proper operation of all components.
- ☐ Instruct the owner or operator of the units operation, and the manufacturer's recommended routine maintenance schedule.

NOTE: It is highly recommended that a maintenance schedule log book be prepared for recording the dates and times of service.

- ☐ Operate the unit for twenty minutes. Record the unit's indoor/outdoor intake and discharge temperatures, amperage draw, and power voltage.
- ☐ Assemble the Warranty Certificate, the Operation and Installation Manual, all accessory installation instructions and the name, address and telephone number of the Authorized Friedrich Warranty Service Company in the area for the owner or operator.

NOTE: Units are to be installed, inspected, and checked by qualified service personnel only.

Appendix A: Electrical Wiring for 265 Volt Models

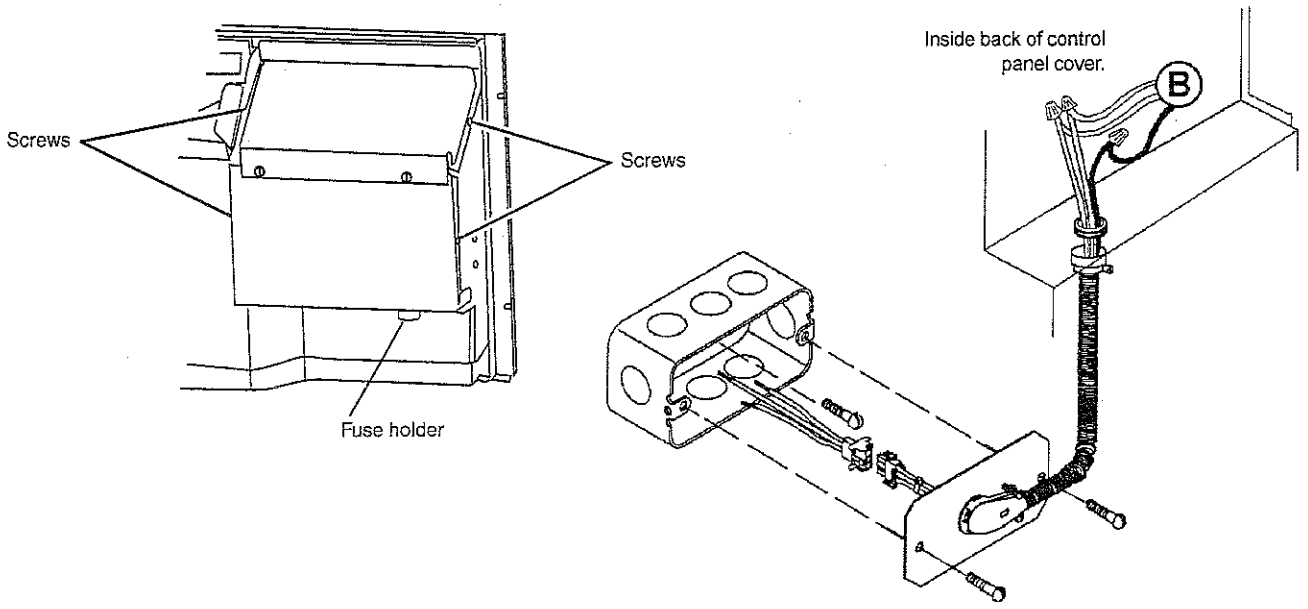
NOTE: It is recommended that the PXSB subbase assembly, the PXCJ conduit kit (or equivalent) be installed on all hardwired units. If installing a flush-floor mounted unit, make provisions for all the line voltage power leads and conduit to be removed for ease of maintenance and service to the chassis.

To install the line voltage power leads and conduit to the chassis, follow the instructions below.

1. Remove the four control box retaining screws (A) and open the control box.
2. Pull the chassis power lead wires (B) (located on the bottom-right side of the control box) through the plastic bushing so they are located inside the control box.
3. Remove the plastic bushing.
4. Route the line voltage power leads through the hole where the plastic bushing was located, and secure its conduit (use a ½" straight conduit connector, with the locknut on the inside of the control box.)
5. Make the appropriate electrical connections within the control box, then secure the box on the chassis. Detailed instructions are included with the installation instructions for the conduit kit (PXCJ).
6. Route the line voltage power conduit from the control box straight down the right front to the bottom side of the chassis. This will allow the front cover to be installed without interference with the electrical conduit.

Figure 18

Line Voltage Connections



⚠ WARNING

ELECTRIC SHOCK HAZARD! Turn off electric power before service or installation. All electrical connections and wiring **MUST** be installed by a qualified electrician and conform to the National Electrical Code and all local codes which have jurisdiction. Failure to do so can result in property damage, personal injury and/or death.

Routine Maintenance

NOTE: Units are to be inspected and serviced by qualified service personnel only.

1. Clean the unit air intake filter at least every 300 to 350 hours of operation. Clean the filters with a mild detergent in warm water and allow to dry thoroughly before reinstalling.

2. The indoor coil (evaporator coil), the outdoor coil (condenser coil) and base pan should be inspected periodically (yearly or bi-yearly) and cleaned of all debris (lint, dirt, leaves, paper, etc.). Clean the coils and base pan with a soft brush and compressed air or vacuum. If using a pressure washer, be careful not to bend the aluminium fin pack. Use a sweeping up and down motion in the direction of the vertical aluminum fin pack when pressure cleaning coils. Cover all electrical components to protect them from water or spray.

   Before reinstalling the chassis in the sleeve, inspect the indoor blower housing, blower wheel, condenser fan blade, and condenser shroud periodically (yearly or bi-yearly) and clean of all debris (lint, dirt, mold, fungus, etc.) Clean the blower housing area and blower wheel with an antibacterial / antifungal cleaner. Use a biodegradable cleaning agent and degreaser on condenser fan and condenser shroud. Use warm or cold water when rinsing these items. Allow the unit to dry thoroughly, inspect all gasket material for deterioration (replace as necessary), and then reinstall the chassis in the sleeve.

NOTICE Do not use a caustic coil cleaning agent on coils or base pan. Use a biodegradable cleaning agent and degreaser.

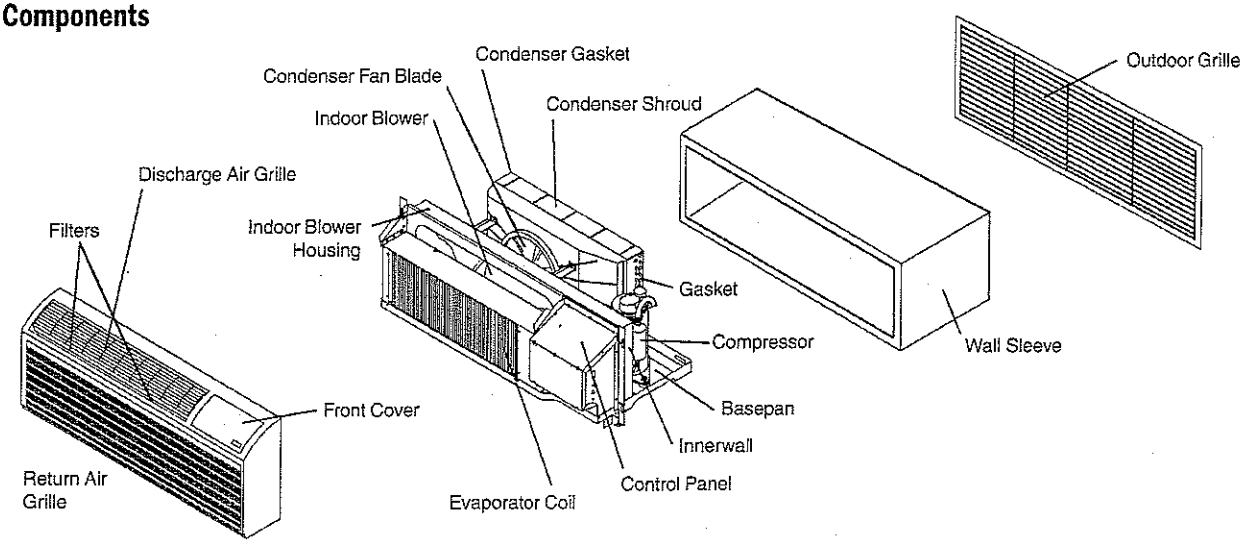
3. Periodically (at least yearly or bi-yearly): inspect all control components, both electrical and mechanical, as well as the power supply. Use proper testing instruments (voltmeter, ohmmeter, ammeter, wattmeter, etc.) to perform electrical tests. Use an air conditioning or refrigeration thermometer to check room, outdoor and coil operating temperatures. Use a sling psychrometer to measure wet bulb temperatures indoors and outdoors.

4. Inspect the surrounding area (inside and outside) to ensure that the units' clearances have not been compromised or altered.

5. Inspect the sleeve and drain system periodically (at least yearly or bi-yearly) and clean of all obstructions and debris. Clean both areas with an antibacterial and antifungal cleaner. Rinse both items thoroughly with water and ensure that the drain outlets are operating correctly. Check the sealant around the sleeve and reseal areas as needed.

6. Clean the front cover when needed. Use a mild detergent. Wash and rinse with warm water. Allow them to dry thoroughly before reinstalling them in the chassis.

Figure 19
Components



Basic Troubleshooting Techniques

Being familiar with the sequence of operation on Standard Controlled Operating Units or the operation of the Remote Thermostat Controlled Units is important. The following questions and answers may help to identify performance problems.

Environmental Effects - Cooling Mode

Is unit sized to room size area and heat load demand?
The number of people in the room, number of electrical devices, solar gains, etc. are all variable items that can affect proper sizing of the unit. Friedrich recommends that you consult with an applications engineer for proper sizing.

Is the outdoor temperature 60°F or below?
The unit is designed for outdoor temperatures above 60°F.

Is the indoor temperature 80°F or above?
Ambient indoor temperatures of 80°F or above will take a longer period of run time to cool down the area. Long run times may indicate that the unit is undersized.

Is indoor humidity high?
This condition will cause the unit to operate longer to remove humidity before noticing any cooling effect.

Has the heat load been increased by additional devices such as computer equipment, or has the room area been increased where the unit is located?
If conditions have changed, the unit may not be able to cool and condition as effectively as previously planned.

Environmental Effects - Heating Mode

Is unit properly sized to room area and heat load demand?
The number of people in the room, number of electrical devices, solar gains, etc. are all variable items that can affect proper sizing of the unit. Friedrich recommends that you consult with an applications engineer for proper sizing.

Is the outdoor temperature 70°F or above?
The unit is designed for outdoor temperatures below 70°F.
Is the indoor temperature 60°F or below? Ambient indoor temperatures of 60°F or below will take a longer period of run time to heat the area. Long run times may indicate that the unit is undersized.

Has the room area been increased where the unit is located?
If the area where the unit is located has been increased, the unit may not provide adequate heat.

Insufficient Maintenance and Inspection

Installation errors are the most common cause of poor performance. Please follow installation instructions carefully. If other problems exist, see Maintenance and Inspection Troubleshooting Guide below.

Maintenance and Inspection Troubleshooting Guide

CAUSE	RESULT
System is not serviced or inspected regularly (semiannually or annually).	Can result in premature component failures, poor performance and increased operating costs.
Air filters are not cleaned regularly and become blocked with particles.	May result in poor cooling, icing and water problems as well as component failures and increased operating costs.
Condenser coil not maintained properly (blocked with particles).	May result in poor cooling, component failures and increased costs.
Evaporator coil not maintained properly (blocked with particles).	May result in poor cooling, icing and water problems, and increased operating costs.
Components that show signs of fatigue - not replaced.	May result in multiple service calls, poor performance and increased operating costs.
Condensate drains and drain lines not maintained.	May result in water and odor problems.

Digital Control Diagnostics and Test Mode

Diagnostics

The Friedrich Smart Center continuously monitors the PTAC unit operation and will store service codes if certain conditions are witnessed. In some cases the unit may take action and shut the unit off until conditions are corrected.

To access the error code menu press the **'Heat'** and **'High Fan'** buttons simultaneously for three seconds. If error codes are present they will be displayed. If multiple codes exist you can toggle between messages using the temp ∧ button. To clear all codes press the temp ∨ button for three seconds while in the error code mode. To exit without changing codes press the **'Low Fan'** button.

Test Mode

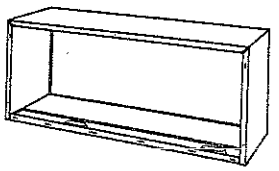
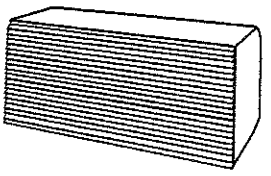
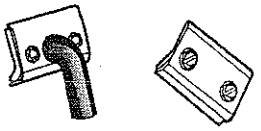
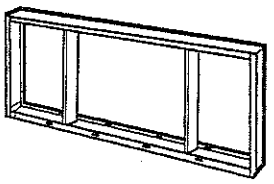
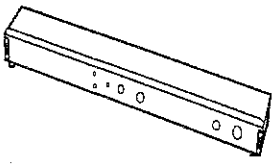
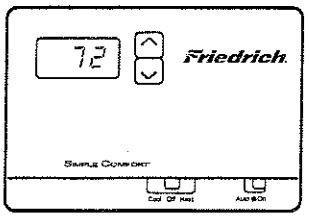
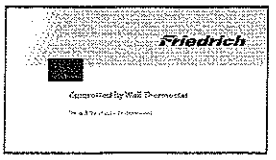
For service and diagnostic use only, the built-in timers and delays on the PTAC may be bypassed by pressing the **'Cool'** and **'Low Fan'** buttons simultaneously for three seconds while in any mode to enter the test mode. CE will be displayed when entering test mode, and OE will be displayed when exiting. The test mode will automatically be exited 30 minutes after entering it or by pressing the **'Cool'** and **'Low Fan'** buttons simultaneously for three seconds.

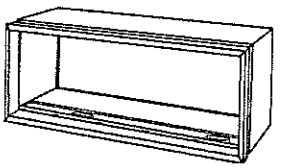
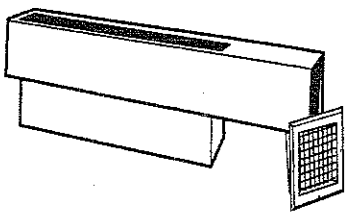
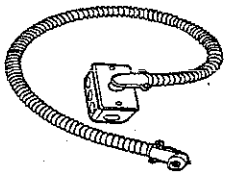
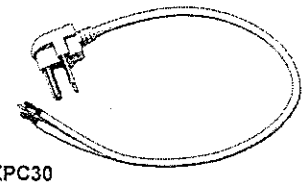
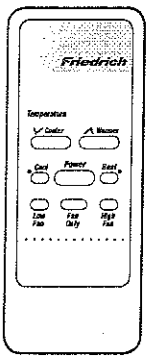
The chart below lists the possible error codes and their description:

Error Code	Code Translation	Action Taken by Unit	Possible Cause
EF	"Error Free" - No Codes Stored	None	Unit Operating Normally
02	An extreme low voltage condition exists <198V for 230V units and <239V for 265V units.	Shut down unit. Display Error code and flash. Once voltage rises to normal level system power is restored.	• Inadequate power supply • Defective breaker • Blown fuse
03	Return air thermistor sensor open or short circuit	Set return air sensor = 75°F. Alternately flash set point and error code. Leave unit running.	• Defective sensor
04	Indoor coil thermistor sensor open or short circuit	Set ID coil temp = 40°F. Alternately flash set point and error code. Leave unit running.	• Defective sensor
05	Outdoor coil thermistor sensor open Or short circuit	Set OD coil temp = 20°F. Alternately flash set point and error code. Automatically change over to Electric heat Mode only. Leave unit running.	• Defective sensor
06	If O.D. coil Temperature > 175 Deg F for 2 consecutive minutes. (Heat Pump models only)	Alternately flash set point and error code. Shut unit down for 5 minutes, then try again 2 times, if fails the 3rd time then shut down unit.	• Dirty coil • Fan motor failure • Restricted air flow • Non-condensables in refrigeration system
07	I.D coil temperature <30 Deg F for 2 consecutive minutes.	Alternately flash set point and error code. Continue fan operation while the compressor is locked out until the indoor coil thermistor reaches 45° F, then energize the compressor. However, compressor must still wait a lockout time of 180 to 240 seconds.	• Dirty filters • Dirty coil • Fan motor failure • Restricted airflow • Improper refrigerant charge • Restriction in refrigerant circuit
08	Unit cycles (Heat or Cool demand) > 9 times per hour	Store error code in memory. Keep unit running	• Unit oversized • Low load conditions
09	Unit cycles (Heat or Cool demand) < 3 times per hour	Store Error Code in memory. Keep unit running	• Unit undersized • High load conditions
10	Room Freeze Protection triggered	Alternately flash set point and error code. Keep unit running.	• Room temperature fell below 40°F
11	No Signal to "GL or "GH" terminal (Remote Thermostat mode only)	Shut down unit. Display error code and flash.	• Defective remote thermostat • Defective thermostat wiring
12	Discharge air temperature >185° F	Alternately flash set point and error code. Open all relays and run high fan. If condition repeats three times in one hour, shut down unit.	• Restricted air flow • Fan motor failure
13	If Pressure limit switch opens	Turn OFF compressor. Alternate flash set point and error code	
14	Discharge air temperature sensor open or shorted	Set the temperature sensor = 75° F Alternately flash set point and error code. Leave unit running.	• Defective Sensor

Friedrich PTAC Accessories

NEW CONSTRUCTION ACCESSORIES

MODEL NUMBER	DESCRIPTION	PHOTO
PDXWS	WALL SLEEVE Galvanized zinc coated steel is prepared in an 11-step process, then powder coated with a polyester finish and cured in an oven for exceptional durability. The wall sleeve is insulated for sound absorption and thermal efficiency. 16" High x 42" Wide x 13 ¾" Deep.	
PXGA	GRILLE Standard, stamped aluminium, anodized to resist chalking and oxidation.	 PXAA
PXAA **PXBG** **PXSC**	ARCHITECTURAL GRILLES Consist of heavy-gauge 6063-T5 aluminum alloy: PXAA– Clear, extruded aluminum PXBG– Beige acrylic enamel PXSC– Also available in custom colors.	
PXDR10	CONDENSATE DRAIN KIT Attaches to the bottom of the wall sleeve for internal draining of condensate or to the rear wall sleeve flange for external draining. Recommended on all units to remove excess condensate. Packaged in quantities of ten.	
PXWE	DEEP WALL SLEEVE EXTENSION A four-inch deep anodized aluminium extension that attaches to the outside of the wall sleeve when the wall is greater than 11 inches thick (9 ½" when a subbase is used, 10 inches when a lateral duct is used). Up to three extensions my be used together.	
PXSB	DECORATIVE SUBBASE Provides unit support for walls less than six inches thick. Includes leveling legs, side filler panels and mounting brackets for electrical accessories. Accepts circuit breaker, power disconnect switch, or conduit kit.	
RT4	DIGITAL REMOTE WALL THERMOSTAT Single stage thermostat used on PTAC units. Hard wired with single speed fan. Direct replacement for RT2.	 RT4
RT5	DIGITAL REMOTE WALL THERMOSTAT Single stage thermostat features high/low fan speed switch. Thermostat is hard wired and can be battery powered or unit powered. Features backlit display and multiple configuration modes. For use on PD-series Friedrich PTACs only.	
PDXRT	REMOTE THERMOSTAT ESCUTCHEON KIT This kit contains ten escutcheons that can be placed over the factory control buttons when a remote wall mounted thermostat is used. The escutcheon directs the guest to the wall thermostat for operation and retains the LED window to display error codes and diagnostic information.	

ADDITIONAL ACCESSORIES		
MODEL NUMBER	DESCRIPTION	PHOTO
PXSE	SLEEVE EXTENSION RETROFIT KIT Galvanized zinc coated steel, 2.4" sleeve extension attached to the room side of the sleeve to allow for the installation of a PD-Series Friedrich PTAC in a T-Series sleeve.	
PDXDA	LATERAL DUCT ADAPTER Attaches to the PTAC/PTHP unit and provides a transition to direct up to 35% of the total CFM to a secondary room, either left or right of the unit. Kit includes duct plenum with discharge grille and internal baffle, adapter and end cap.	
PDXDE	LATERAL DUCT EXTENSION A three-foot insulated plenum that attaches to the left or right side of the duct adapter. The extension can be cut to length by the installer. Maximum allowable straight extension is 15 feet.	
PXCJ	CONDUIT KIT WITH JUNCTION BOX Hard wire conduit kit with junction box for 208/230V and 265V units (subbase not required). Kit includes a means of quick disconnect for easy removal of the chassis. *Required for 265V installations.	
PXPC 15/20/30	POWER CORD RETROFIT Replaces LCDI power cord on 230V models when unit is used with a subbase. PXPC15 is used with 15 amp 2.5 kW units. PXPC20 is used with 20 amp 3.4 kW units. PXPC30 is used with 30 amp 5.0 kW units.	 PXPC30
PDXRC	REMOTE CONTROL KIT Comes with one hand-held remote for control of the PTAC unit.	

CHASSIS OPTIONS	
DESIGNATOR	**DESCRIPTION**
S	STANDARD UNIT Standard PTAC/PTHP chassis. Can be 230/208V or 265V, electric or heat pump.

Friedrich Air Conditioning Company
P.O. Box 1540
San Antonio, TX 78295
210.357.4400
www.friedrich.com

PD-SERIES
PACKAGED TERMINAL AIR CONDITIONERS
LIMITED WARRANTY

SAVE THIS CERTIFICATE. It gives you specific rights, you may also have other rights which may vary from state to state and province to province.

In the event that your unit needs servicing, contact your nearest authorized service center. If you do not know the nearest service center, ask the company that installed your unit or contact us - see address and telephone number above. **When requesting service:** please have the model and serial number from your unit readily available.

Unless specified otherwise herein, the following applies: **PACKAGED TERMINAL AIR CONDITIONERS AND HEAT PUMPS**

LIMITED WARRANTY - FIRST YEAR (Eighteen (18) Months from the original date of purchase or twelve (12) months from installation). Any defect in the unit's material or workmanship will be repaired or replaced free of charge by our authorized service center during the normal working hours; and

LIMITED WARRANTY - SECOND THROUGH FIFTH YEAR (Sixty-six (66) months from the date of purchase) ON THE SEALED REFRIGERATION SYSTEM. Any part of the sealed refrigeration system on the P-series that is defective in material or workmanship will be repaired or replaced free of charge (excluding freight charges) by our authorized service center during normal working hours. The sealed refrigeration system consists of the compressor, metering device, evaporator, condenser, reversing valve, check valve, and the interconnecting tubing.

These warranties apply only while the unit remains at the original site and only to units installed inside the continental United States, Alaska, Hawaii, Puerto Rico and Canada. The warranty applies only if the unit is installed and operated in accordance with the printed instructions and in compliance with applicable local installation and building codes and good trade practices. For international warranty information, contact the Friedrich Air Conditioning Company - International Division.

Reasonable proof must be presented to establish the original purchase date, otherwise the beginning date of this certificate will be considered to be our shipment date plus sixty days. Replacement parts can be new or remanufactured. Replacement parts and labor are only warranted for any unused portion of the unit's warranty.
We will not be responsible for and the user will pay for:

1. Service calls to:
   A) Instruct on unit operation. B) Replace house fuses or correct house wiring. C) Clean or replace air filters. D) Remove the unit from inaccessible locations. E) Correct improper installations.

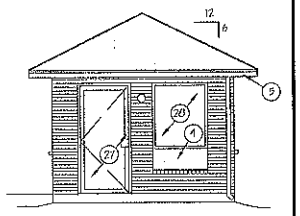
2. Parts or labor provided by anyone other than an authorized service center.

3. Damage caused by:
   A) Accident, abuse, negligence, misuse, riot, fire, flood, or acts of God. B) Operating the unit where there is a corrosive atmosphere containing chlorine, fluorine, or any damaging chemicals (other than in a normal residential environment). C) Unauthorized alteration or repair of the unit, which in turn affects its stability or performance. D) Failing to provide proper maintenance and service. E) Using other than a "Seacoast Protected" unit in a coastal environment. F) Using an incorrect power source. G) Faulty installation or application of the unit.

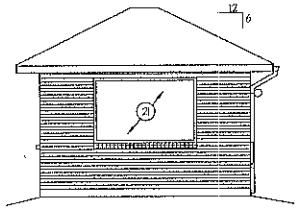
We shall not be liable for any incidental, consequential, or special damages or expenses in connection with any use or failure of this unit. We have not made and do not make any representation or warranty of fitness for a particular use or purpose and there is no implied condition of fitness for a particular use or purpose. We make no expressed warranties except as stated in this certificate. No one is authorized to change this certificate or to create for us any other obligation or liability in connection with this unit. Any implied warranties shall last for one year after the original purchase date. Some states and provinces do not allow limitations on how long an implied warranty or condition lasts, so the above limitations or exclusions may not apply to you. The provisions of this warranty are in addition to and not a modification of or subtraction from the statutory warranties and other rights and remedies provided by law.

In case of any questions regarding the provisions of this warranty, the English version will govern.

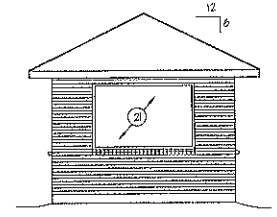
(12-04)



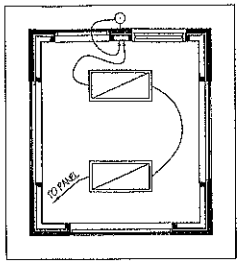
5 NORTH EASE ELEV.



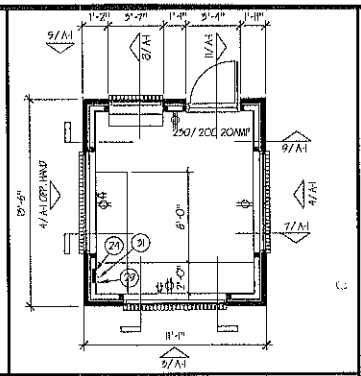
4 SE/NW ELEVATION



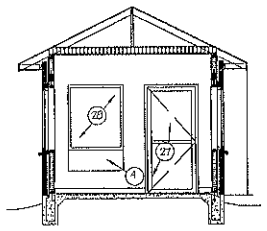
3 SOUTHWEST ELEV.



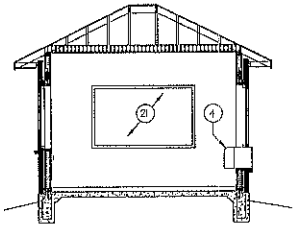
2 REFLECTED CEILING PLAN



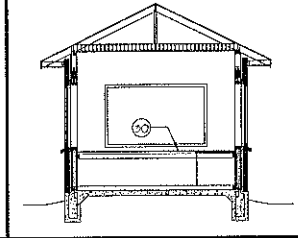
1 FLOOR PLAN



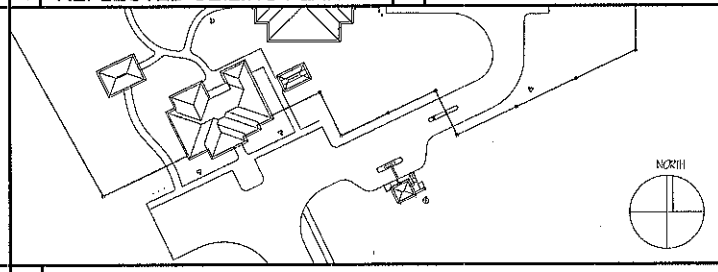
9 BUILDING SECTION



8 BUILDING SECTION



7 BUILDING SECTION



6 SITE PLAN SCALE: 1"=50'-0"

1. ASPHALT SHINGLE ROOF SYSTEM OVER #30 ROOFING FELT UNDERLAYMENT ON 1/2" CDX PLYWOOD ROOF DECKING ON 2X6 RAFTERS 24" O.C.
2. DOUBLE 2X4 SOFFIT BEARING PLATE.
3. 2-2X12 HEADER.
4. 250/ 208V PTAC UNIT.
5. PRE-FINISHED ALUMINUM 4"X5" OGEE GUTTER WITH ROOF SUPPORT STRAPS AT 3'-0" O.C. WITH DOWNSPOUT.
6. 2X4 SOFFIT FRAMING 24" O.C.
7. 1/2" PLYWOOD SHEATHING.
8. R-19 BATT INSULATION AT 2X6 CEILING JOIST 24" O.C.
9. 5/8" O.C. F.C. GYPSUM BOARD. TAPE FLOAT AND PAINT.
10. R-11 BATT INSULATION WITH VAPOR BARRIER AT 2X4 STUD FRAMING 16" O.C.
11. KING BRICK MEMBER. (MATCH RED BRICK AT EXISTING APARTMENT COMPLEX) ACME BRICK CO.
12. 4" CONCRETE SLAB W/ 6X6 W1.4 W.W.F. OVER 6 MIL VAPOR BARRIER.
13. 2 X 4 T.P.T. WOOD PLATE W/ 1/2" DIA. X 8" + HOOK ANCHOR BOLTS @ 48" O.C. (SIMPSON MASONRY SILL PLATE ANCHORS @ 42" MAX REPLACE ANCHOR BOLTS)
14. #4 REINFORCEMENT BARS CONTINUOUS. (TYPICAL)
15. 8 MIL WALL BASE COURSE FLASHING.
16. ADJUSTABLE BRICK TIES AT 16" O.C. EA. WAY (TYPICAL)
17. FULL OPEN HEAD JOINT WEEP HOLE AT 32" O.C.
18. 12" X 12" X 1/8" COMMERCIAL GRADE VCT.
19. 4" RUBBER BASE.
20. PAINTED WOOD VENEER SOFFIT.
21. 7'0" X 4'6" CLEAR TEMPERED DOUBLE GLAZED WINDOW IN ALUMINUM FRAME.
22. 1 X 6 PAINTED WOOD FASCIA BOARD.
25. ALUMINUM SIDE SHOLD.
24. 100 AMP PANEL BOX.
26. 2-2X8 HEADER.
28. BOMEL AT CONCRETE WALK AND FOUNDATION.
27. 3'-0" ; 7'-0" ALUMINUM STORE FRONT DOOR WITH TEMPERED GLASS, CLOSER, SEVEN PIN DEFC CYLINDER, PUSH BAR ON THE INSIDE AND PULL HARDWARE ON THE OUTSIDE, IN ALUMINUM FRAME.
28. 42"W X 48" CLEAR TEMPERED DOUBLE GLAZED FIXED WINDOW IN ALUMINUM FRAME.
29. TWO INCH DIA. SCHEDULE 40 PVC CONDUIT FOR COMMUNICATIONS 2 INCHES ABOVE SLAB INSIDE EXTENDED 5'-0" BEYOND SLAB OUTSIDE IN THE DIRECTION OF THE CLUBHOUSE. (DATA CONNECTION N.I.C.) PROVIDE AND INSTALL DATA/ PHONE OUTLETS AND CONDUIT INSIDE THE GUARD BUILDING.
30. PLASTIC LAMINATE ON TWO LAYERS 5/ 4" PLYWOOD CORNER TOP WITH 1/ 4" ROUND MOLDING AT WALL.
31. TWO INCH SCHEDULE 40 PVC CONDUIT FOR ELECTRICAL IN CONCRETE SLAB, EXTEND 6" ABOVE SLAB AND 5'-0" BEYOND SLAB AT EXTERIOR OF BUILDING IN THE DIRECTION OF CLUB HOUSE PANEL 112. ROBE TO AND CONNECT TO PANEL 112 FOR ELECTRICAL SERVICE. LOCATE EXISTING UTILITIES PRIOR TO BORE.

NOTES TO SHEET:

1. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301 "SPECIFICATION FOR STRUCTURAL CONCRETE"
2. ALL FOOTINGS SHALL BEAR ON ORIGINAL UNDISTURBED SOIL OR CONTROLLED FILL.
3. CONCRETE SHALL BE NORMAL (150 PCF). 28 DAY COMPRESSIVE STRENGHT: 3000 PSI.
4. CONCRETE FOR FLOOR SLABS SHALL HAVE A MAXIMUM SLUMP OF 5 INCHES AT POINT OF DELIVERY.
5. SIZE OF AGGREGATES SHALL CONFORM TO ASTM C33.
6. CONCRETE FINISH FLOORS SHALL HAVE A HARD STEEL TROWELED FINISH EXTERIOR WALKS SHALL HAVE LIGHT BROOM FINISH.
7. REINFORCING STEEL PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 318 SECTION 7.5.
8. PROVIDE BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCING"
11. HORIZONTAL REINF. IN FOOTINGS, AND TURNDOWN SLAB SHALL BE CONTINUOUS AROUND CORNERS.
12. ALL DEBRIS SHALL BE REMOVED FROM FORMS PRIOR TO PLACEMENT OF CONCRETE.

CONCRETE NOTES:

1. ALL SLABS SHALL BE #2 SXP OR #2 SYP.
2. ALL HEADERS SHALL BE #2 SXP OR DENSER.
3. ALL PLATES SHALL BE #2 SYP.
4. ALL SILL PLATES IN CONTACT WITH CONCRETE OR MASONRY AND EXPOSED LUMBER SHALL BE PRESSURE TREATED PER AWPA SPECIFICATIONS.

FRAMING NOTES:

1. MATCH ALL MATERIAL WITH EXISTING MATERIALS AT STUDENT HOUSING COMPLEX.
2. CONSTRUCTION SHALL COMPLY WITH ALL NATIONAL, STATE, AND LOCAL CODES FOR CONSTRUCTION.
3. SITE SHALL BE KEPT CLEAN OF DEBRIS DURING AND AFTER CONSTRUCTION IS COMPLETE.

GENERAL NOTES:

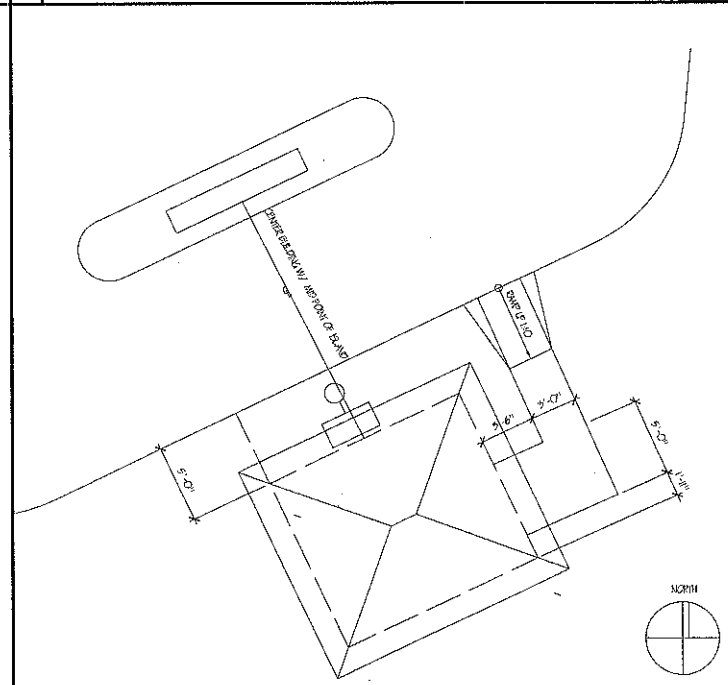
250/ 208 2OAMP

DUPLEX OUTLET

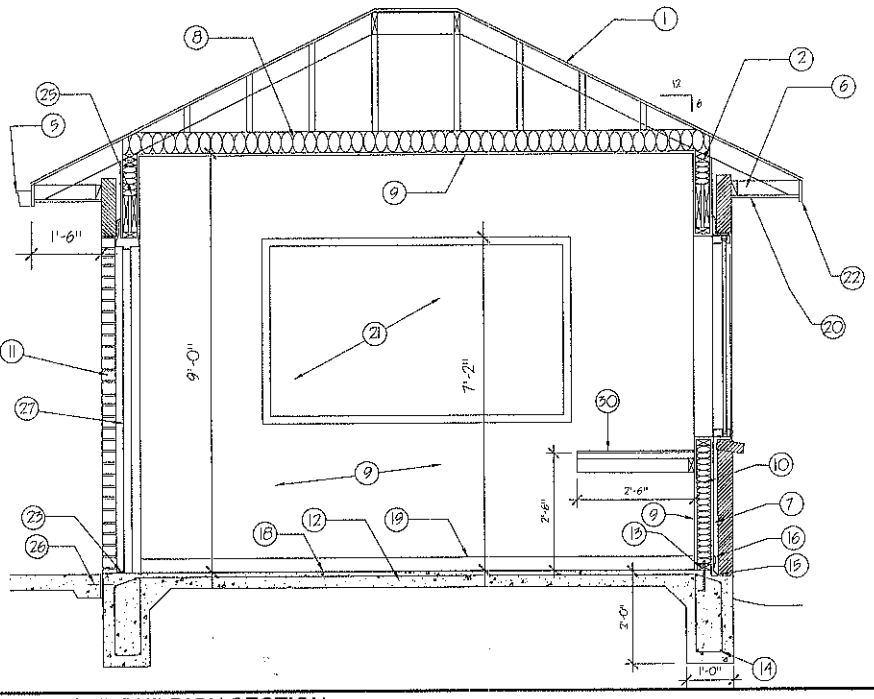
LIGHT SWITCH

FOUR BULB T8 SURFACE MOUNTED LIGHT FIXTURE W/ COVER

SYMBOLS LEGEND



10 ENLARGED SITE PLAN/ROOF PLAN



11 ENLARGED BUILDIGN SECTION SCALE: 3/ 4"=1'-0"

SUSL
PHONE: 318-670-6578
FAX: 318-676-9918
E-MAIL: lchanner@susla.edu
FACILITIES PLANNING & OPERATIONS
SOUTHERN UNIVERSITY AT SHREVEPORT
3050 MARTIN LUTHER KING JR. DRIVE
SHREVEPORT, LOUISIANA 71107

A UNIVERSITY POLICE GAURDSHACK FOR JAUGUAR COURTYARD

ISSUE:

DATE:

SHEET: A-1

DO NOT SCALE DRAWINGS. ALL DRAWINGS ARE 1/ 11" UNLESS NOTED OTHERWISE